Public Utilities

Volume 60 No. 6 September 12, 1957

RELATION OF GROWTH AND RATE OF RETURN FOR UTILITIES
By Fred P. Morrissey

« »

Water Company Financial Problems
By John H. Murdoch, Jr.

« »

Should a Utility Merchandise Appliances?
By C. E. Wright

« »

Repricing—A Method for Current Valuation

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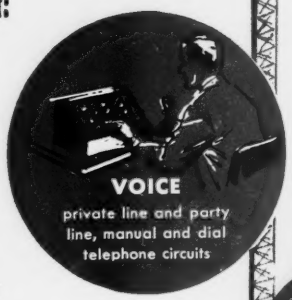

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Public Utilities FORTNIGHTLY

VOLUME 60 SEPTEMBER 12, 1957 NUMBER 6

ARTICLES

Relation of Growth and Rate of Return for Utilities ..... *Fred P. Morrissey* 361
A survey of 77 of the largest electric companies suggests that more rapidly growing companies tend to realize a higher rate of return.

Water Company Financial Problems ..... *John H. Murdoch, Jr.* 374
Interesting comparisons can be made between water utility companies and other forms of public utility enterprise.

Should a Utility Merchandise Appliances? Part II. ..... *C. E. Wright* 382
More recent complications of discount houses and other competition with respect to merchandising policies.

FEATURE SECTIONS

Washington and the Utilities 387
Telephone and Telegraph 391
Financial News and Comment ..... *Owen Ely* 394
What Others Think 403
Repricing—A Method for Current Valuation 403
Time for AEC to Go? 407
Growth of Subsidized Government Ownership ... 409
The March of Events 413
Progress of Regulation 417
Industrial Progress 25
• *Pages with the Editors* . 6 • *Utilities Almanack* 21
• *Coming in the Next Issue* 10 • *Frontispiece* 22
• *Remarkable Remarks* .. 12 • *Index to Advertisers* .. 38

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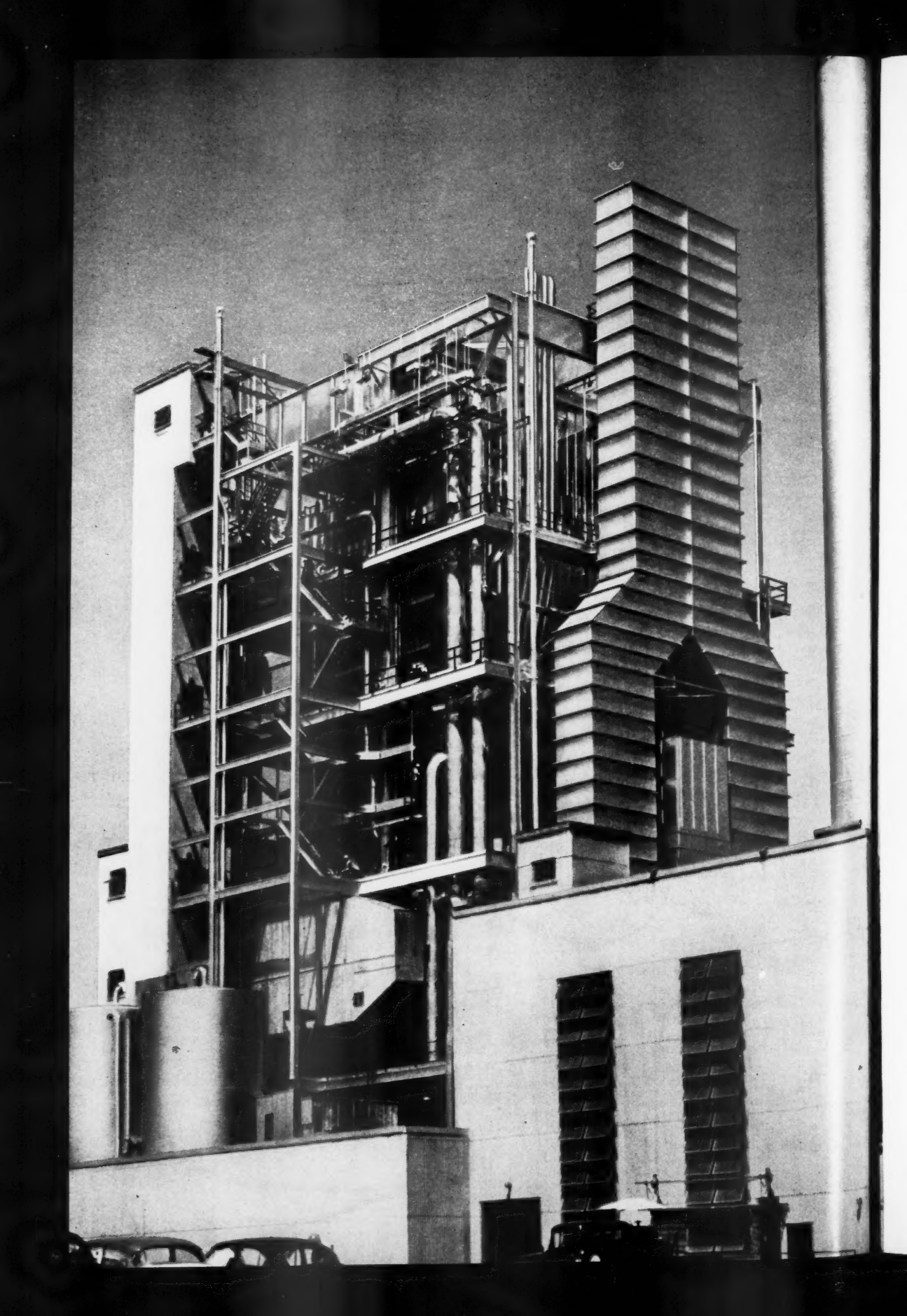

Advanced B&W Engineering in New Radiant Reheat Boiler Helps Produce

More Low Cost Power for Oklahoma

A B&W Radiant Reheat Boiler, burning natural gas, has gone on the line at the Riverbank Station of Oklahoma Gas & Electric Company at Muskogee. It is equipped with fifteen of the largest gas spud burners ever manufactured by B&W, and is designed for future conversion to coal-burning.

Among Design Features assuring increased station generating efficiency with this boiler is the recirculation of gas for steam temperature control. The gas is introduced without interference with the combustion process. Recirculation of a portion of the flue gas in a boiler makes it possible to obtain the desired steam temperature at specified fractions of full load—an important requirement for top turbine performance.

Natural Circulation is made possible by B&W Cyclone Steam Separators. This brings about really important savings in operating and maintenance costs. B&W's steam separating system insures high purity steam for the turbine and keeps the turbine on the line for longer periods between cleanings. Higher turbine efficiency is consistently maintained.

These B&W engineering advances, plus proved high availability, are major reasons why Oklahoma Gas & Electric has on order two more units similar to the new Riverbank boiler. Other B&W Boilers already are at Mustang Station, Oklahoma City; Horse Shoe Lake Station, Harrah, and Arbuckle Station, Sulphur.

Important to Oklahoma Gas & Electric and its engineers, in selecting B&W Boilers, was the friendly service and excellent engineering so close at hand from the nearby link in a national chain of plants and engineers. Progressive electric companies and their consulting engineers know that nearly a century of steam generating experience supports B&W research, development, engineering, and design. This pool of knowledge is available to you, to help you meet your central station requirements. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, New York.

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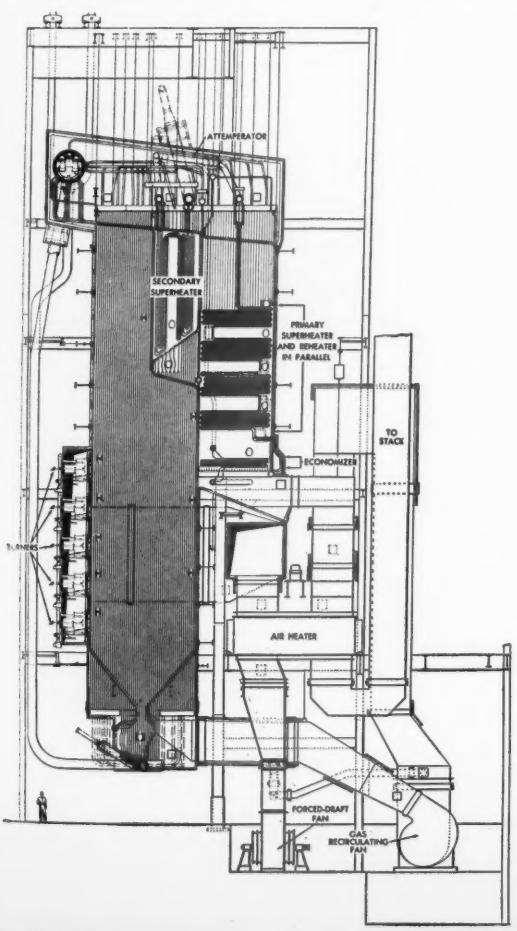


BABCOCK & WILCOX

BOILER DIVISION

B&W Radiant Reheat Boiler at Oklahoma Gas & Electric Company's Riverbank Station. Steam capacity is 1,200,000 lbs per hr. Boiler design pressure is 2150 psi. Steam pressure is 1935 psi at superheater outlet and temperature is 1005F with reheat to 1005F. Sargent & Lundy, Chicago, Consulting Engineers.

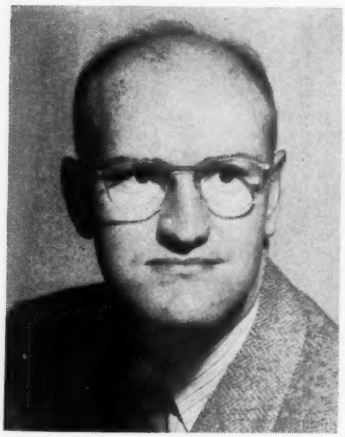
Pages with the Editors

ONE of the most challenging phenomena of public utility operations in recent years has been the growth characteristic of all forms of public utilities. Following the removal of artificial restrictions after World War II, and especially since the Korean episode, they expanded rapidly. This meant that, in terms of new plant investment, a relatively higher proportion of plant had to be installed at higher prices after the war, than was already in service at much lower cost figures before and during the war.

DURING the recent consideration of the New York Telephone Company rate case by the New York Public Service Commission, there was some interesting testimony to this effect. In terms of the number of telephones in service, almost half of the company's plant was installed before July 1, 1946, but that half of the plant had been built with only one-third of the nominal dollars. Thus, using nominal dollars to appraise the value of such plant would result in writing off about a sixth of the total.

WHAT has been the impact of this fact of rapid plant expansion at high nominal prices on the realized rate of return? The opening article in this issue is the result of a survey of 77 of the largest electric

JOHN H. MURDOCH, JR.



FRED P. MORRISSEY

operating companies in the United States. It suggests that the more rapidly growing companies tend to realize a higher rate of return on capital, as well as on common stock equity, than the slower-growing companies. Of course, there are some companies in very swift-growing areas that show a certain amount of contrary tendency. But, on the whole, the growth utilities have also experienced relatively higher return.

THIS leading article is a very thoughtful consideration of the relationship of growth to the rate of return for various utilities. It would appear to demonstrate that while there is still substantial variation in the realized return of utilities in various states over the decade (ending 1955), nevertheless regulatory commissions, by design or otherwise, have permitted utility companies experiencing the most rapid growth to realize higher rates of return.

THE author of this leading article is PROFESSOR FRED P. MORRISSEY, a native of Brantford, Canada, and a graduate of the University of Toronto (BC, '43). After service during the war years with the Canadian Army as a statistician, DR. MORRISSEY returned to Toronto for a

how Fish Service Corporation helped bring a new age of energy to SPOKANE

From initial Survey to final completion Fish Service Corporation supervised all steps in converting Spokane Natural Gas Company from an obsolete Propane-air utility to a modern, efficient natural gas distributing system.

IN EARLY 1953 Spokane Gas and Fuel Company saw little hope for the future. Sales were declining, the system was obsolete, cash was low, and prospects were so dim new financing was hard to get.

Then, with the promise of Natural Gas via pipeline from the San Juan Basin, things began to look up. But the company had little experience in planning, financing and executing the modernization required to take advantage of the new supply.

The management then turned to experts. Fish Service Corporation was retained to take charge of all phases of the change.

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Master's degree and lectured there for a year before going to Columbia University for a PhD in economics, which he obtained in 1951. Since 1949 he has been on the staff of the School of Business Administration of the University of California in Berkeley. He has specialized in finance, public utilities, and business economics.

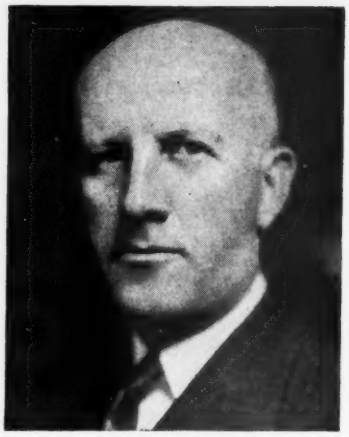
* * * *

JOHN H. MURDOCH, JR., whose article on "Water Company Financial Problems" begins on page 374, is a native of Washington, Pennsylvania, and a graduate of Washington and Jefferson College (BA, '09). He was admitted to the Pennsylvania bar in 1912 and practiced law in that state until 1924. Through earlier association with a local water company, MR. MURDOCH became an attorney and officer of the Community Water Service Company and later of the American Water Works & Electric Company. When a service company was formed in a subsequent reorganization, MR. MURDOCH was elected vice president and counsel. He also served as vice president of the parent company until his retirement in 1956. He is still a consultant. He has been very active in waterworks associations at both the state and national level.

* * * *

IN this issue, beginning on page 382, we conclude the second of a two-part series by C. E. WRIGHT, professional writer of Jacksonville, Florida, and former industrial magazine editor. Following the survey in his first instalment of respective merchandising practices in relation to present-day utility operations, MR. WRIGHT deals, in this instalment, with the more recent complication of discount houses and other competition in the utility appliance business.

CONSIDERING the 2-to-1 ratio, mentioned in his first instalment, of electric utilities which do not, as compared with those which do, merchandise, there seems to be no easy or complete answer to this important question of managerial policy. Bearing in mind that a utility company's primary interest is in the promotion of the utilization of its service, as such, the policy decision would seem to turn on the important question of results obtained.



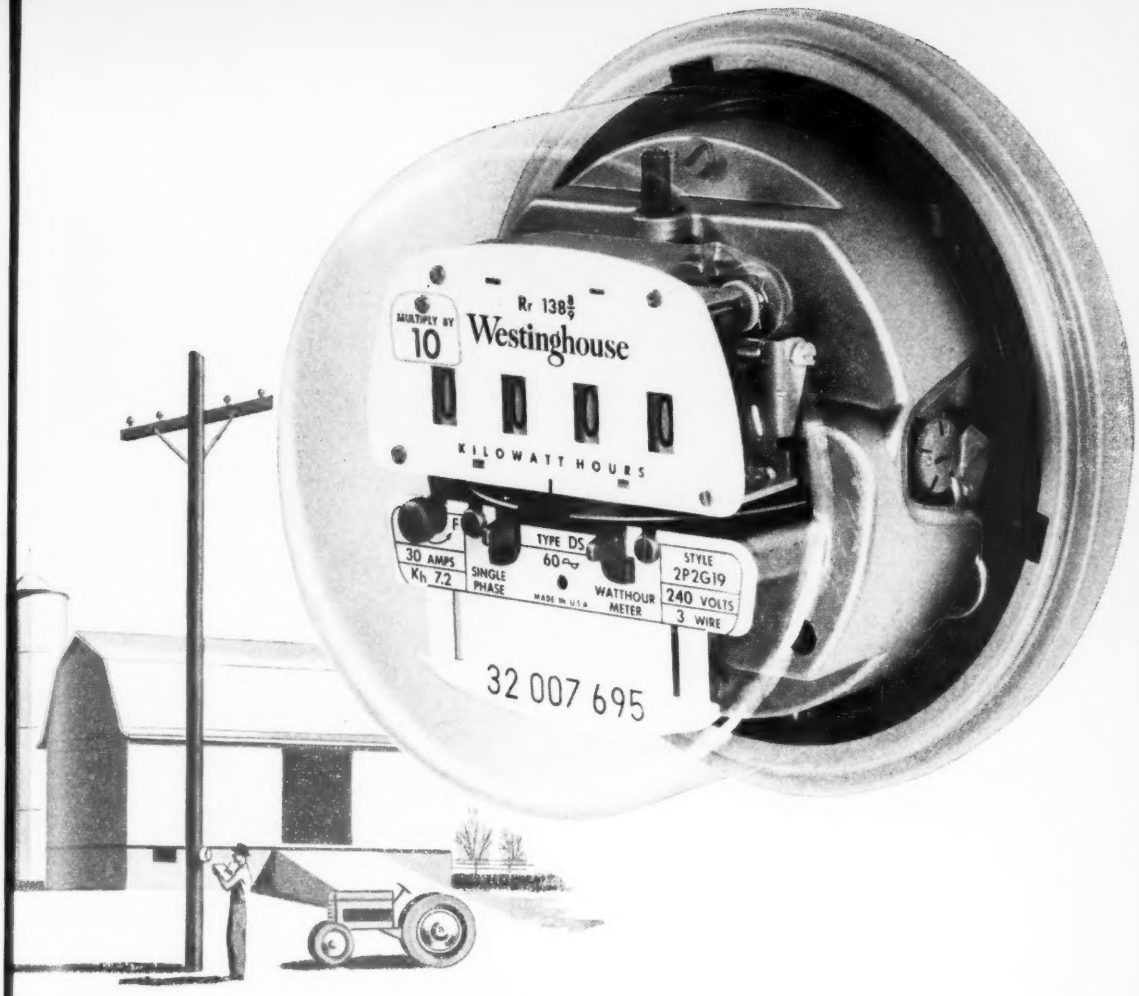
C. E. WRIGHT

WHERE local dealers are doing a good job in promoting and distributing a sufficient number of appliances, or where they can be assisted in doing the same by the utilities with reasonable co-operation, that is likely to be the course followed. But where local circumstances are such that direct action is called for to develop the appliance market and a desirable load factor, merchandising by the utility company may be indicated. Certainly the recent activities of discount houses, with other complications, such as credit extension and servicing of appliances, have not made utility managements' task any easier in grappling with this controversial subject.

FOR utilities, whether they merchandise or not, a most troublesome result of the cash-and-carry, sell-it-and-forget-it type of discount operation has been the problem of servicing ailing appliances. The cut-rate vendors refuse to have anything to do with them after the sale, which is a big reason why they are cut-rate. And the "bargains" involved are often of such a flimsy type as to need more servicing than ever. And too often it is the utility service rather than the "bargain" which gets the blame. Again, we say, there is no easy answer here.

THE next number of this magazine will be out September 26th.

The Editors



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Coming IN THE NEXT ISSUE

(September 26, 1957, issue)

★

ACCELERATED DEPRECIATION

A challenging point of view on regulatory treatment of accelerated depreciation is contained in this forthcoming article by F. Warren Brooks, vice president, finance, of The Cleveland Electric Illuminating Company. Mr. Brooks makes a contribution to the thinking on this often highly controversial and more frequently misunderstood device provided for in the Internal Revenue Code. Many unsound and distorted conceptions about the nature of accelerated depreciation for tax deduction purposes are in circulation. This article examines methods of treating the subject for accounting. It is suggested by Mr. Brooks that appropriate regulatory treatment may lie in consideration of the applicable rate of return rather than in adjustment of the rate base.

THE CO-OP AS A VEHICLE FOR POWER SERVICE

The co-operative form of organization has attracted its share of praise and criticism. Some are inclined to view the co-op (as did the **Atlana** (Georgia) **Constitution** in a recent editorial) as "one of the world's most democratic organizations." There are others—even in academic circles where the co-op has found friends—who view the adoption of the co-op form as "a voluntary step to involuntary servitude." Bennett L. Smith, an attorney of Fort Worth, Texas, examines the co-op as an instrument for providing the public with electric power. Point by point, the characteristics of the co-op, which set it apart from the business corporate form, are examined by Smith. Considerable doubt is raised over the "democratic" character touted by its more enthusiastic admirers. The author questions whether, in fact, the REA power co-ops are really true co-ops, or whether they are not, in fact, a bridge to some other type of politico-economic organization.

SCHOOL FARES—WHOSE SUBSIDY?

Recently, at a regional meeting of transit executives, the president of the American Transit Association stated that there is no justification for reduced bus or trolley fares for schoolchildren. While many cities require a school ticket proviso in approved rate schedules of urban transit companies, much evidence is piling up against this form of subsidy. William J. McKenna, assistant professor of economics, Temple University (Philadelphia, Pennsylvania), presents a good argument for abolishing this subsidy for pupils who ride the transit system. McKenna examines the pros and cons but concludes that the school fare represents a tax on the transit system for education—a cost which properly belongs in the budget of the political subdivision—not on the transit industry.

★

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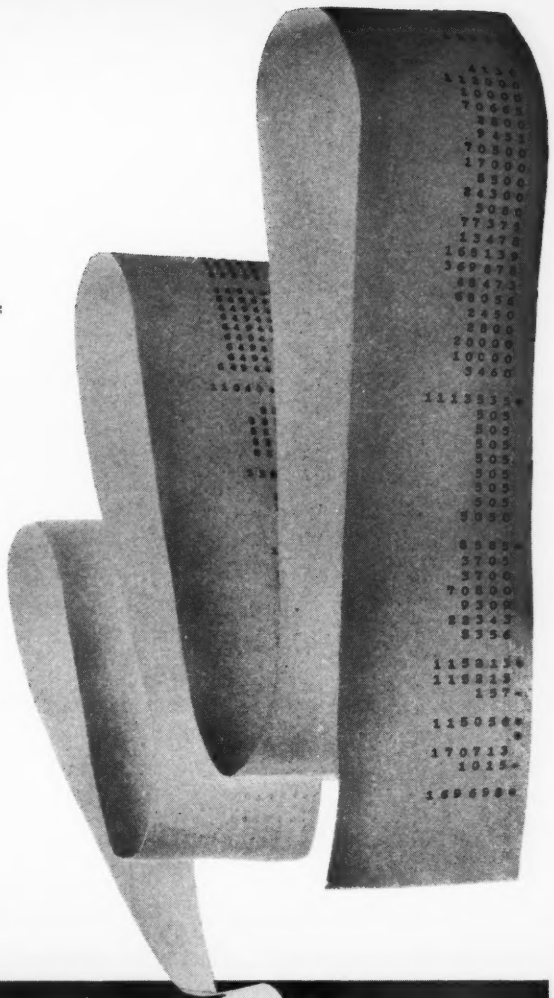

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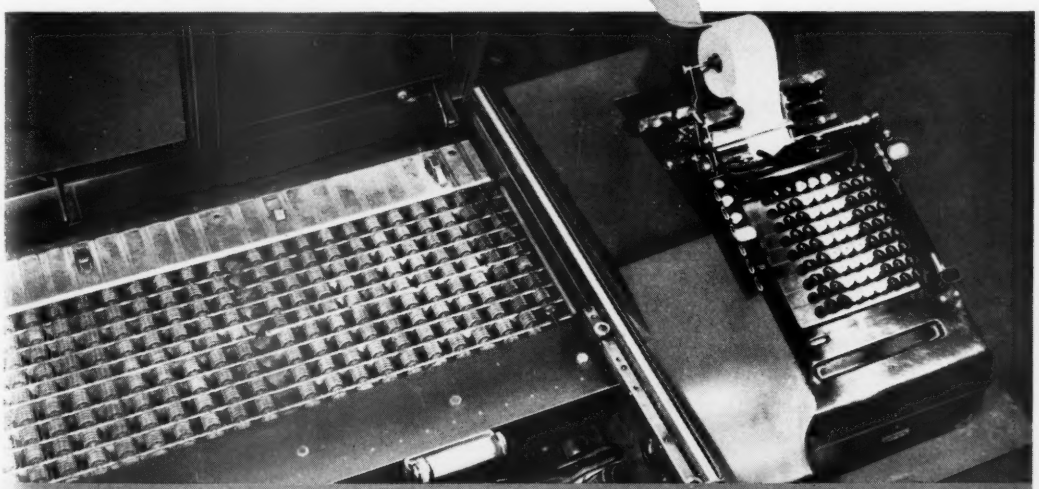

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Former Commissioner, Internal Revenue Service.

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"Politically, I feel sure we are becoming, to an extent that might surprise us, a nation of conservatives in the sense that more and more people have moved into an economic status where they have something to conserve. Our average American today, as he accustoms himself to his new situation, should become increasingly distrustful of measures which could upset his fancy new apple cart (with its two-tone finish in grapejuice blue and dapple gray)."

At the dispatching center of Shell's products pipeline general field office, Indianapolis, scheduler Robert Formby collects data from remote pumping stations.

Teletypewriters give Shell dispatcher immediate readings from four remote pumping stations

"New Douglas station suction 60 pounds, discharge 90 pounds, motor load 100 amps . . ." that's what the teletypewriters above tell Shell Oil Company's Indianapolis dispatcher about operations at an unattended pumping station over 200 miles away.

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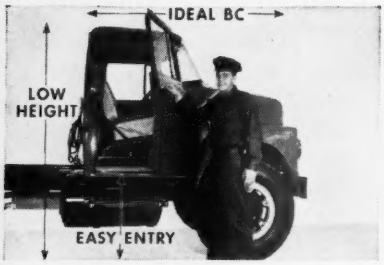

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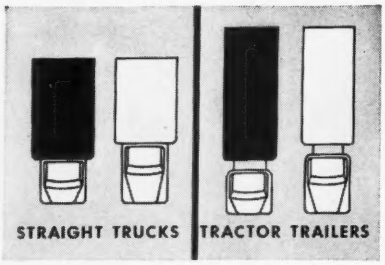

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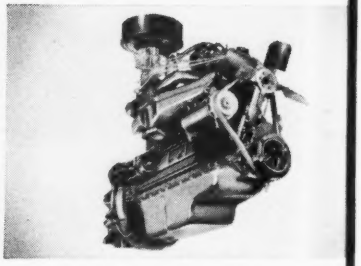
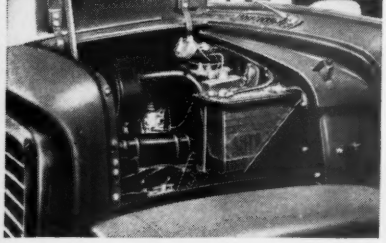


3 Lively, low cost performance wi INTERNATIONAL-built engines that produ more *usable* horsepower at low rp Higher compression ratios for greater e ciency and economy. 12-volt ignition wi "hot spark" circuit. Engines for every j



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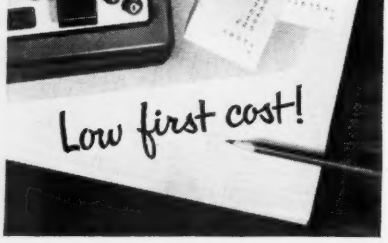
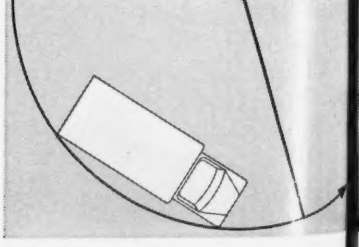
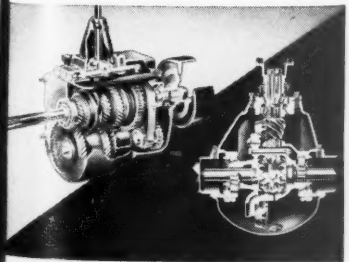


5 Low first cost. New INTERNATIONAL cab-forward models are priced right down with the lowest. They are quality-built throughout to keep operating and upkeep expense at rock bottom. Result: they are built to cost *least* to own over the years.



6 Minimum front overhang and true ge metric steering for short turning radi with bumper clearance. Cam and roller mounted twin lever gears are mounte ahead of the front axle. Comfortably pos tioned four-spoke, safety steering whee

is is the new INTERNATIONAL cab-forward design . . . lden Anniversary models with short 89-inch bumper-back-of-cab dimension . . . trucks that are low in height, w in price. All have more powerful six-cylinder engines. Four-and six-wheel models from 9,000 to 33,000 lbs. GVW are available with the widest selection of components and equipment to match every hauling job requirement exactly . . . built to cost *least* to own over the years.



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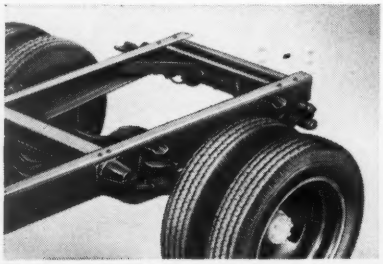

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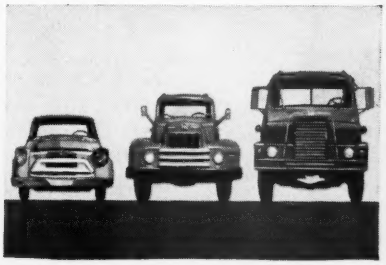

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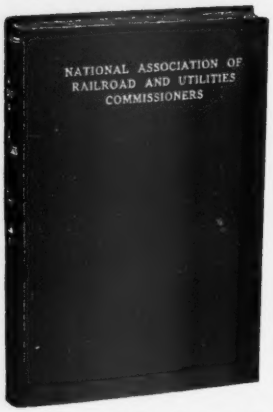

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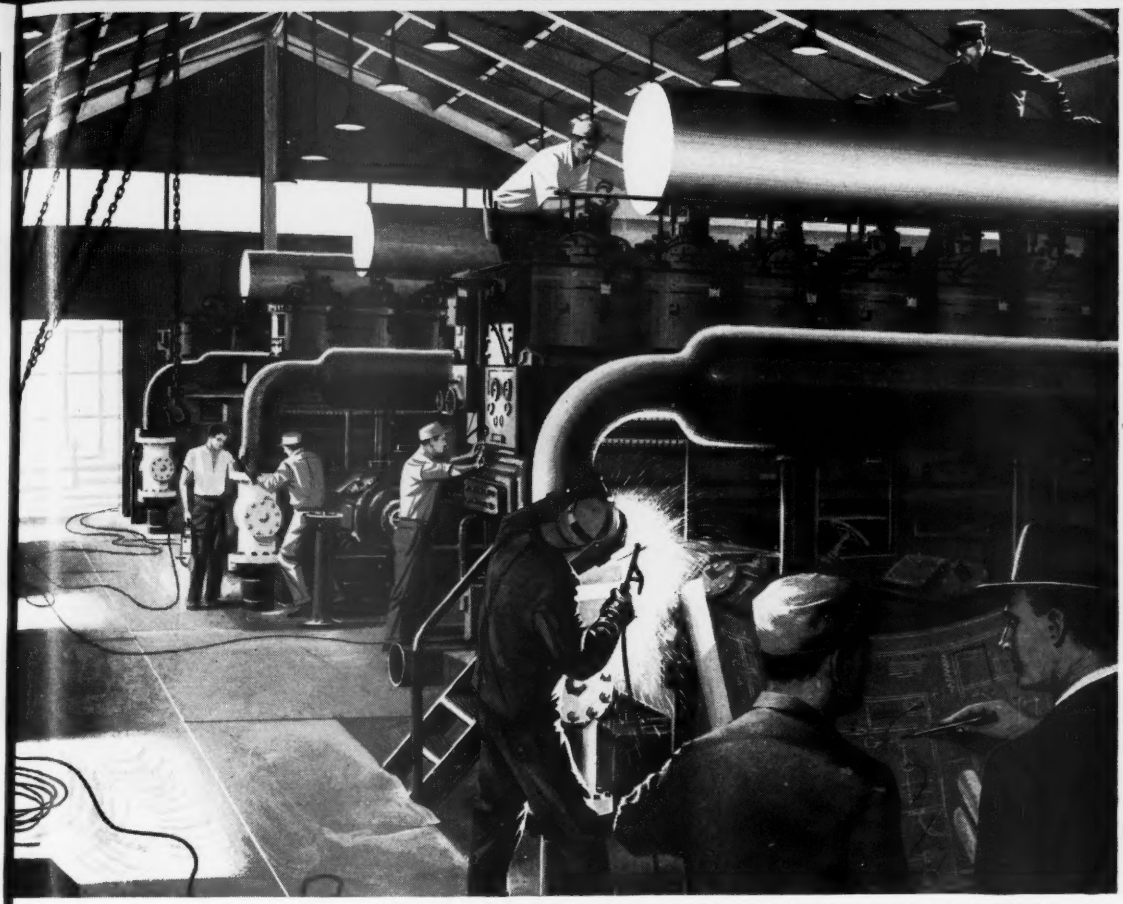

New compressor stations, like the one pictured above, are constantly being built to meet the steadily increasing demands for natural gas. These compressor stations pump natural gas through Columbia's 36,716 miles of pipeline to homes and industries in America's Heartland.

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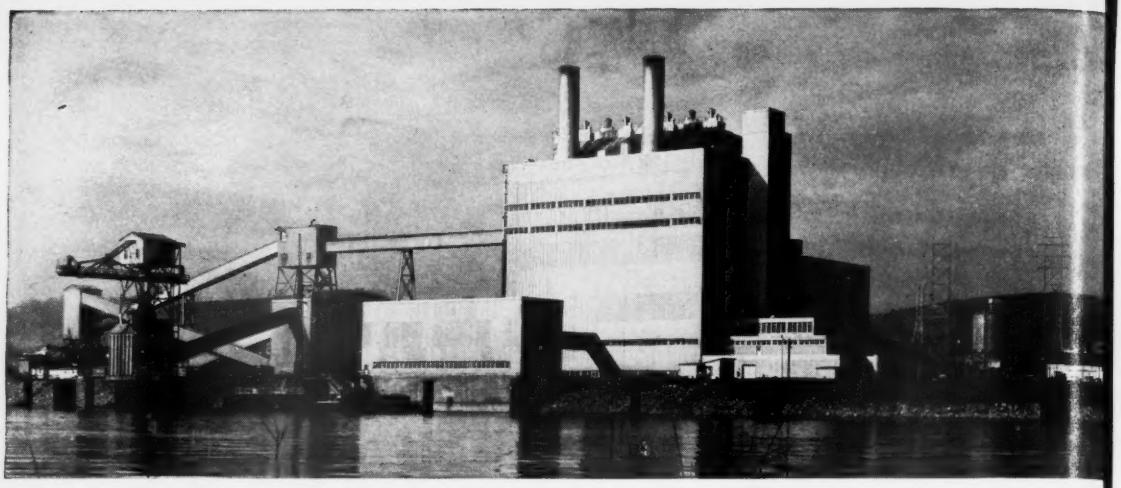

Q-Panel walls grace the new Elrama
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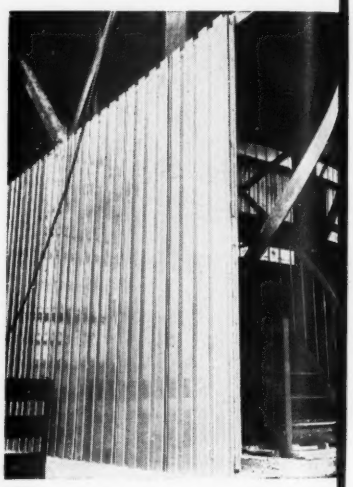

Q-Panel walls (above) go up quickly i
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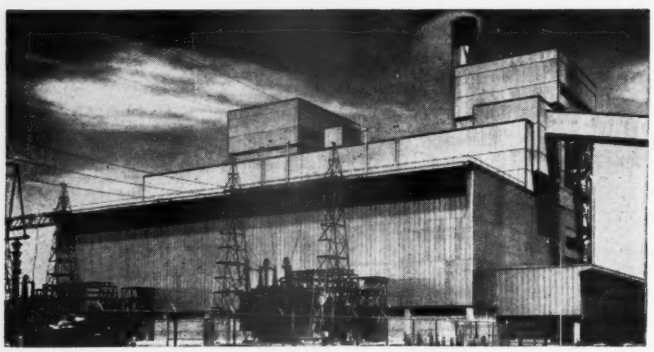

More than 32,000 sq. ft. of Q-Panels were
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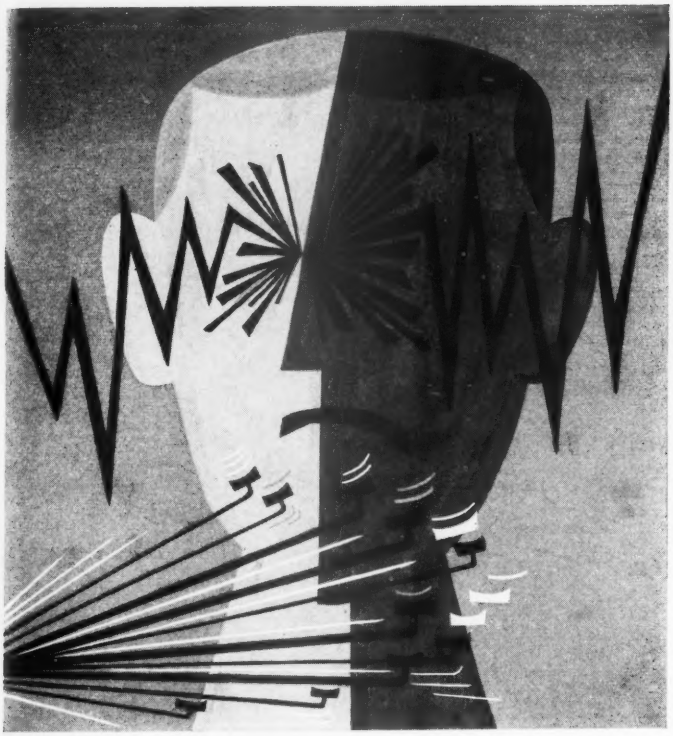

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SEPTEMBER

Thursday—12 *Tennessee Telephone Association begins annual convention, Nashville, Tenn.*	**Friday—13** *Maryland Utilities Association begins annual fall conference, Virginia Beach, Va.*	**Saturday—14** *American Water Works Association, Missouri Section, will hold annual meeting, St. Louis, Mo. Sept. 29–Oct. 1.* ***Advance notice.***	**Sunday—15** *West Virginia Independent Telephone Association will hold annual convention, Davis, W. Va. Sept. 30, Oct. 1.* ***Advance notice.***
Monday—16 *American Gas Association begins accident prevention conference, St. Louis, Mo.*	**Tuesday—17** *Michigan Independent Telephone Association begins annual convention, Grand Rapids, Mich.*	**Wednesday—18** *Southeastern Gas Association begins convention, Winston-Salem, N. C.*	**Thursday—19** *Texas Mid-Continent Oil and Gas Association will hold annual meeting, Fort Worth, Tex. Oct. 1, 2.* ***Advance notice.***
Friday—20 *Public Utilities Association of the Virginias begins annual meeting, White Sulphur Springs, W. Va.*	**Saturday—21** *Pennsylvania Electric Association will hold annual meeting, Philadelphia, Pa. Oct. 2, 3.* ***Advance notice.***	**Sunday—22** *Indiana Electric Association will hold meeting, French Lick, Ind. Oct. 2-4.* ***Advance notice.***	**Monday—23** *American Transit Association begins annual meeting, Montreal, Quebec, Canada.*
Tuesday—24 *Steel Founders' Society of America ends 2-day fall meeting, Hot Springs, Va.*	**Wednesday—25** *American Society of Mechanical Engineers ends 3-day fall meeting, Hartford, Conn.*	**Thursday—26** *International Association of Electrical Leagues will hold annual conference, Cincinnati, Ohio. Oct. 2–5.* ***Advance notice.***	**Friday—27** *Electric Companies Public Information Program ends 3-day workshop conference, Detroit, Mich.*

Courtesy, International Harvester Company

Trailer Exchange for a Fast-growth Area

Interior of trailer-mounted mobile dial exchange at a new housing site near Chicago.

Public Utilities
FORTNIGHTLY

VOL. 60, NO. 6 SEPTEMBER 12, 1957

Relation of Growth and Rate Of Return for Utilities

While there is substantial variation in the realized return of utilities in various states over a decade (ending 1955), nevertheless regulatory commissions, by design or otherwise, have permitted utility companies experiencing the most rapid growth to realize higher rates of return.

BY FRED P. MORRISSEY*

MUCH has been written about the determinants of a fair rate of return for utilities. One neglected aspect in the literature, however, is the impact of growth or expansion upon a utility's return. Yet one finds scattered references in rate cases offered by witnesses or included in the commission's decision to the effect that rapidly expanding utilities should be permitted premium rates of return, in order to encourage adequate capital investment and to reward the additional risks, uncertainties, and difficulties attendant upon rapid expansion.

The purpose of this article is twofold: First, to point out that *a priori* some valid arguments exist for permitting higher re-

* Associate professor of business administration, University of California, School of Business Administration, Berkeley, California. For additional personal note, see "Pages with the Editors."

turns for rapidly growing companies, and, second, to report upon an investigation of 77 of the largest electric operating companies in the United States. This survey indicates that there *is* a definite tendency for rapidly expanding utilities to realize rates of return substantially in excess of the other utilities in the sample. Incidentally, wide regional and state variations in realized rates of return on total capitalization and on common equity are pointed out. It becomes clear that utility commissions consciously or otherwise have permitted the utilities which have been expanding rapidly to earn higher rates of return on both total capital and common equity.

Before proceeding, however, it might be well to point out that a rapidly growing utility is *not* necessarily a "growth" company as usually defined in investment circles. Definitions of the latter vary, but the usual characteristics include very high retention of earnings where the marginal rate of return on these retained earnings is very high—often exceeding 25 per cent to 50 per cent per annum. Typically also, the high profit rate deters much external common stock financing since this means allowing outsiders to share in the anticipated high profits. Another frequent feature of a "growth" stock is a high price-earnings ratio often 30 to 40 to 1—far in excess of the typical utility. It is to be noted that few if any utilities meet these characteristics; consequently, the "growth" stocks, which have become the darlings of many investment dealers, have little or no utility stock represented.

The Risks Attendant upon Growth

In the utility industry, rapid growth means external financing—making demands upon the capital market. In fact, in the survey of the 77 largest electric utilities reported below, over 85 per cent of the increased capitalization over the period 1946-55 was derived from external sources—and in some parts of the country, such as California and New England, it was 90 per cent to 95 per cent. A comparative figure for large nonutility companies would be helpful, but the variation among petroleum, automobile, retailing, and steel companies is so great that any single figure would be too general. Yet it is well-established that most large nonutility companies rely on the capital market to a small degree relative to the utilities.

Here then for the expanding utilities is the recurrent problem of selling new securities with the uncertainties of price, market reception, and often a downgrading of the corporate securities in the eyes of the investors. How or why is the lack of attractiveness brought about? Two factors are important: The first, the argument of some utilities runs, acts through the reduced protection afforded by the earned surplus as new securities are sold. The second factor is concerned with the saturation of investment portfolios with securities of a particular industry or company—applicable, of course, only where huge amounts of securities are poured on the market repeatedly. (American Telephone and Telegraph Company and some of its largest operating units may be examples.)

Little comment is needed on the factor of saturation, but the effect on the earned surplus of repeated security issues can be overlooked too often. The earned surplus provides a type of protection to

the outstanding securities of any business. If earnings drop, the earned surplus affords a contingency reserve so that interest on debt and preferred and common dividends may be continued without impairment of the legal capital of the utility. For companies, such as utilities, which have substantial cash generating ability even when operating near a deficit, it is logical for investors to look for protection from the retained earnings. However, the sale of any additional capital automatically reduces the protection afforded by the constant earned surplus, and thus may serve to reduce the attractiveness of securities of expanding companies relative to those of nonexpanding companies which can maintain their surplus protection.

Similarly, in these days of inflation the addition of substantially higher-cost plant during expansion while utility prices are rigid, tends to reduce the realized rate of return—a point sufficiently well-established that it needs no elaboration here.

THIS "attrition" of earnings, as it has been referred to, has been recognized by several commissions, including California, by allowing a higher return in anticipation of a lower realized return in the future. E. F. McNaughton of the utilities division of the California Public Utilities Commission, in a paper to the New York Society of Security Analysts, June 3, 1953, stated it this way:

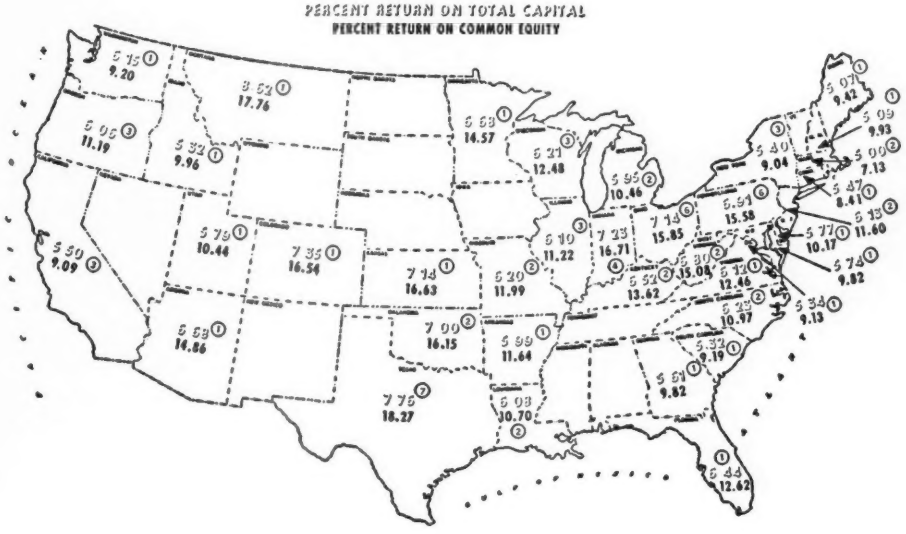
. . . To allow for a decline in rate of

MAP I

77 LARGEST ELECTRIC COMPANIES

1946-1955

PERCENT RETURN ON TOTAL CAPITAL
PERCENT RETURN ON COMMON EQUITY



NUMBER OF COMPANIES INCLUDED IS SHOWN IN CIRCLE

> return attendant upon the addition of high-cost plant to meet growing demands for service and for other reasons, the [California] commission has increased the allowable rate of return by as much as one-half of one per cent and sometimes more, to take care of the forecasted decline in the rate of return. This allowance has been variously termed "slippage," "erosion," or "attrition" in the return.

One may interject that despite these allowances realized rates of return for the California utilities in the sample studied were still much below the rest of the nation with the exception of the New England states.

ANOTHER problem associated with expansion is managerial in nature and includes the difficulties of co-ordinating and integrating rapidly enlarging segments, securing adequate personnel, particularly management talent, and, in short, establishing a complex working organization which will perform a service or produce a product at reasonable cost.

The selection and training of employees in substantial numbers is an important factor but it probably is overshadowed by the difficulties of providing adequate middle and top management for expanding companies. Executives of large corporations, both utility and industrial, repeatedly say that one of their biggest problems is securing and training management personnel for responsible positions—a need which is greatly increased as expansion proceeds at a rapid pace.

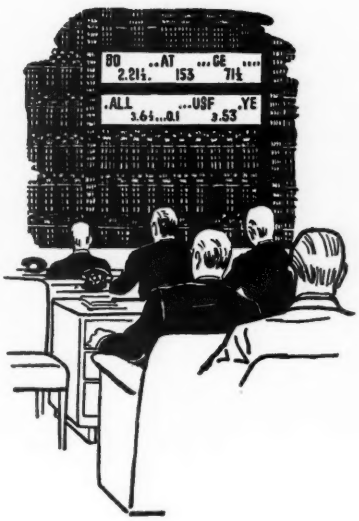
Another danger or element of uncertainty arising out of the rapid addition of plant and personnel is the possibility that the market will not be there for the increased output of product or service when it is available. The unsurpassed corporate expansion of the 1920's, vainly trying to keep up with actual and expected increased demands, resulted in vast unused capacity for several years as the depression deepened and expected demand failed to materialize. Currently, in the paper industry where postwar shortages were recurrent, new capacity has outrun increased demand and many think that it will be 1960 before the new capacity will be fully utilized.

FOR a utility, this danger of overbuilding is also real because management must steer between Scylla on the one side, the necessity of providing adequate service as required by the population, and Charybdis on the other, the possibility that the large additions to plant will not be needed. Perhaps this problem is more important to a utility than to an industrial or commercial business because reliance on long-range forecasts of demand of three to five years is more characteristic of utilities and because industrials can and do refuse orders for their product—a recourse usually denied the regulated industries. Of course, it may be argued that we have the business cycle under control and depressions are a thing of the past. Yet it must not be forgotten that aggregate demand is the sum of the decisions of millions of Americans and freedom of choice to spend or save is basic to our philosophy. While we have new tools for the control of business fluctuations, the possibility of a serious depression is not beyond the realm of possibility as long as we still grant sovereignty to the individual.

However, expansion is not without

Internal Financing

"In the utility industry, rapid growth means external financing—making demands upon the capital market. In fact, in the survey of the 77 largest electric utilities reported . . . over 85 per cent of the increased capitalization over the period 1946-55 was derived from external sources —and in some parts of the country, such as California and New England, it was 90 per cent to 95 per cent. A comparative figure for large nonutility companies would be helpful, but the variation among petroleum, automobile, retailing, and steel companies is so great that any single figure would be too general."



benefit—nonregulated business expands to better its competitive position and increase its profits—an incentive upon which we have based our free enterprise system.

But quite apart from this aspect there are other benefits. For example, one utility executive of a rapidly expanding company reported it is inclined to "take a chance" on a new development in plant and equipment because, if it is successful, it may reduce costs and lead to further economies. If the "chance" turns sour it will probably represent a small portion of the greatly added equipment and plant over the next few years. A company which was not expanding could hardly afford this luxury since a mistake in selection might take twenty years or more to correct.

Similarly, it appears expanding utilities can take advantage of the economies of engineering larger units of plant with adequate reserve margins built in—provided, of course, capital is available. In addition, if the trend of the economy in which the utility operates is generally upward, excess capacity which might develop as a result of unrealized demand for a short period is eliminated more quickly than in a more static region.

On balance then, the problems and risks associated with rapid utility growth suggest that higher rates of earnings are justified. How to translate this into a quantitative allowance is undoubtedly complex and will not be attempted here—but it appears clear that utility commissions should afford some substantial weight to this element in their determination of rate of return.

Sample of 77 Largest Electric Operating Utilities

To determine what has been the situation in the postwar period with regard to realized rates for return, 77 large electric operating companies were studied over the period 1946-55. The basis of selection was simple—all electric companies with total capitalization of $100 million or more at the end of 1955 were included to provide a group of some substantial uniformity in size, with ready access to capital markets, specialized engineering and managerial talent, and with the economies of operation associated with substantial size. Inadequate data due to complex mergers excluded a few large utilities that would otherwise have been included —such as Niagara Mohawk Power Corporation, Alabama Power Company, and Ohio Edison Company. Yet the 77 included in the sample effectively represent the largest electric companies in the country today.

The statistical data on these 77 companies is used here for two purposes. Because it was necessary to compute rates of return for each company, regional variations readily became apparent. Therefore, the immediate section is devoted to a demonstration of the wide variation in realized rates of return (as opposed to the allowed rate of return in a commission rate order) among various states and regions of the United States. Second, these companies are used to test the hypothesis that utilities enjoying a fast rate of growth do in fact realize a higher rate of return.

State and Regional Variations in Realized Rate of Return

The realized average rate of return on total capitalization over the period 1946-55 is summarized by states in Map I. It will be noted some states are not represented, either because the companies serving the area were too small for our sample, *e.g.,* Nevada, or else complex mergers precluded the ready use of continuous data, *e.g.* Alabama.

Map I, page 363, shows the average rate of return on total capital and common equity realized by the component electric companies in the state of principal operation. For example, the three utilities in California together averaged 5.50 per cent return on total capital and 9.09 per cent on common equity in the postwar period, while the six companies included in Pennsylvania together averaged 6.91 per cent on total capital and almost 16 per cent on common equity in the same period. Quick perusal of this map will show that the New England states and the states of California, New York, Maryland, South Carolina, and Georgia have averaged very low rates of return, much below national levels on both total capitalization and equity capital. On the other hand, companies operating in Pennsylvania, West Virginia, Florida, Ohio, Indiana, Minnesota, Kansas, Oklahoma, Texas, Arizona, and Colorado have enjoyed substantially higher average rates of return. A partial explanation for the inclusion of several states in the latter group is the local commission's use of a "fair value" rate base, although this does not apply to more than a few. Examination of the period 1951-55 for the same companies reveals much the same picture.

A second grouping of the 77 companies according to the Edison Electric Institute regional classification (as reported weekly in the major newspapers)

is worth noting and has the merit of grouping operating companies more closely on the basis of broad economic regions rather than political (*i.e.*, state) regions. Map II, this page, contains the results for the years 1946-55. Again it can be concluded that the New England companies have experienced the lowest rates of return on total capitalization and on common equity. California is again very close to the bottom of the grouping averaging 5.50 per cent on total capitalization and 9.09 per cent on common equity. The largest of the California utilities, Pacific Gas and Electric, recorded 5.22 per cent for the period while Southern California Edison met the California average and San Diego Gas & Electric bettered the average by .25 per cent.

On the basis of these regional groupings, New England and the Pacific South West have experienced a low level of earnings—in fact these are the only areas that have earned below 6 per cent, the traditional (if not logical) bench mark. The South Central area, comprising "home-rule" Texas, Oklahoma, Arkansas, and Louisiana, leads the list with 7.20 per cent on total capital and 16.20 per cent on common equity. The high leverage in this latter group explains in part the relatively high return on common equity. The Central Industrial, West Central, and Rocky Mountain groups exceeded 6.50 per cent on total capital with earnings for the residual owners in the 13 per cent to 15 per cent range. The Southeast, Middle Atlantic (with Pennsylvania companies buoy-

MAP II

COMPARISON OF EFFECTS OF REGULATION
77 LARGEST ELECTRIC COMPANIES

1946-1955

BASED ON EDISON ELECTRICAL INSTITUTE REGIONAL CLASSIFICATION

PERCENT RETURN ON TOTAL CAPITALIZATION
PERCENT RETURN ON COMMON EQUITY
NUMBER OF COMPANIES INCLUDED IS SHOWN IN CIRCLE

ing up the low earning New York utilities), and Pacific Northwest groups have averaged 6 per cent or a little better on total capital and 11-12 per cent on common equity.

In summary, then, we can divide these regions into four subgroups—South Central alone at the top with average earnings on total capital exceeding 7 per cent; the Central Industrial, West Central, and Rocky Mountain groups in the 6.5 per cent to 7 per cent range; the Southeast, Middle Atlantic, and Pacific Northwest averaging 6 per cent or a little better; and finally the Pacific Southwest (California) and New England areas holding last place with returns of 5.50 per cent and lower. It may be noted that there has been a tendency for the return to decline in the latter part of the postwar period for most of the groups; for example, the South Central group declined from 7.20 per cent to 6.94 per cent. The low earning areas, Pacific Southwest and New England, changed little, with a slight tendency for the former to increase (5.61 per cent). Comparable changes in the return on common equity were experienced, as shown in Table I, page 369.

There appears to be no simple reason why the rate of return on total capital has tended to decline, even though slightly in many cases, in the latter part of the period. It may be due to stricter regulation but is more likely due to the additional capacity which has been built into many electric systems in the latter period—capacity which is necessary to provide reserve and growth margins yet which means operation at levels below technical capacity. The student of economics thinks of this in terms of greater fixed or overhead costs which serve to increase costs of operation with no resultant increase in revenues—but perhaps with better service. The decline in the return on equity in the 1951-55 period is due, first, to the lower return on total capital and, second, to the increase in the proportion of common equity to total capitalization which further reduces the leverage.

The Statistical Relationship between Growth and Return

One of the first problems which must be met before investigating any possible relationship between expansion and rate of profit is the establishment of some satisfactory measurement or criterion of growth or expansion which can be used for comparative purposes. Several were considered: The first was the increase (in absolute terms or percentage terms) in kilowatt-hours of electricity output. This criterion would include output from new steam and hydro plants with vastly different investment costs, as well as simple purchased power, a source which may not require any additional plant and equipment or personnel. Another criterion, the increase in the number of customers, was considered but here again the different proportions and vastly different usage of residential, commercial, and industrial power customers made any comparisons of doubtful value. A third, actual dollars of increased capitalization, offered promise because it reflects in substantial degree the demands upon the capital market.

Yet this criterion would tend to indicate that it was as much a problem for Pacific Gas and Electric to raise $100 million in the ten years studied as it was for Oklahoma Gas & Electric. PG&E actually increased its capitalization from $643 mil-

TABLE I

RETURNS REALIZED BY 77 ELECTRIC OPERATING COMPANIES—CLASSIFIED BY EDISON ELECTRIC INSTITUTE REGIONS

EEI Region	*Number of Companies*	*Average Per Cent Return on Total Capital* 1951-55	1946-55	*Average Per Cent Return on Common Equity* 1951-55	1946-55
New England	5	5.08	5.13	8.39	8.40
Middle Atlantic	12	5.94	5.99	11.25	11.78
Southeast	10	6.00	6.18	10.99	11.97
Central Industrial	20	6.51	6.83	12.62	14.43
South Central	12	6.94	7.20	14.42	16.10
West Central	6	6.13	6.60	12.48	14.17
Rocky Mountain	6	6.25	6.65	11.95	13.13
Pacific Northwest	3	5.85	6.06	10.62	11.19
Pacific Southwest	3	5.61	5.50	9.26	9.09

lion at the end of 1945 to $1,729,000,000 in December, 1955, or over $1 billion, while the latter started with $68 million total capitalization on December 31, 1945, and increased to $176 million at the end of 1955—an increase of $108 million. This assumption is hardly justified and demonstrates a real weakness in this specific criterion of growth. Another shortcoming of the use of dollar increase in total capitalization is that it almost automatically puts the very large companies in December, 1945, at the head of the growth list simply because of their initial size.

THE criterion finally chosen expresses growth in terms of percentage increase in total capitalization 1946-55 (later, percentage increase in common equity is also used) because this criterion removes the bias inherent in the third criterion (dollar increase in total capitalization) and permits clearer recognition of *relative* growth for the 77 companies, and individual corporate demands upon the capital market. Ideally, some composite of several criteria would be most desirable and could be derived if time permitted extensive experimentation. However, for the purpose here it appears that the percentage increase in total capitalization offers a reasonable measurement of growth, expressed in terms of capital requirements.

The 77 companies included in the sample were ranked according to their per-

centage increase in total capitalization (1946-55) and were divided into quartiles with average rates of return on total capital and common equity computed for each quartile. In addition, the increase in book value and market value per share of common stock (adjusted for splits and stock dividends) was computed for each of the quartiles and is presented in Table II, page 371.

EXAMINATION of this data demonstrates that the companies in the first quartile, the group with the highest rate of growth, have realized a higher average rate of return than the slower growth companies. In fact, the 50 per cent of the sample represented by the first two quartiles have averaged .4 per cent to .5 per cent more than the slow growth companies comprising the other 50 per cent of the sample. If one eliminates the three California companies from this rapidly growing group, the average return on this group would be increased and the differential raised. As would be expected because of the direct relationship of return on total capital with growth, the rate of return on common equity also is highest for the companies in the first quartile (14.55 per cent) and is lowest for the quartile showing lowest growth (11.58 per cent). A similar relation exists for the change in book value per share and market value per share, although the number of companies with market value available throughout the period is only 44.

When the period is subdivided into 1946-50 and 1951-55 with the companies grouped according to their respective rates of growth in each separate period, the same trends emerge as evidenced over the entire period 1946-55. It appears then that there exists a definite tendency for the high growth companies to realize higher rates of return on total capital and on common equity. Also, these same fast growth companies have favored their equity holders with larger increases in book value and in market value per share.

Comparison Based upon Common Equity Increase

MANY of the utilities surveyed have increased their equity base over the 10-year period. Accordingly, it seemed appropriate to determine if a different picture would be obtained by classifying the companies according to the increase in common equity. In other words, while the change in total capitalization includes debt, preferred and common equity, here the emphasis is on the increase in common equity alone, whether by sale of common stock or by retained earnings.

What relationship develops if the companies are classified according to percentage increase in common equity? For this purpose only those companies in the sample with market prices from 1946-55 (in a few cases the 1947 market price was accepted) were included so that the relation of market value and book value could be computed.

When these companies are arranged according to the per cent increase in common equity 1945-55, the results are as shown in Table III, page 372.

Before conclusions are drawn from this sample of 44 companies, one word of warning is offered. The use of the percentage increase in common equity as a measure of growth has a tendency to put the largest companies in this sample in the lower quartiles because some of the smaller companies started the period with

very thin equity ratios. Accordingly, there is some preselection or distortion in the grouping due to the growth criterion used. Fortunately, it does not appear to be large enough to invalidate the conclusions and was not present in the earlier section on total capitalization.

THE conclusions from the ranking by common equity growth are even more evident than was the case with total capitalization. It appears that the greater the growth in common equity the higher has been the realized average rate of return. The quartiles ranged from 82 per cent to 510 per cent average increase in common equity and the return on common equity increased from 9.23 per cent to over 16 per cent. This wide disparity (9.23 per cent to 16 per cent) was due in part, however, to the higher leverage enjoyed by the companies in the first quartile (see Table III), although by the second half of the period 1951-55, the differences in equity ratios for the first three quartiles were largely eliminated. Table III also indicates the substantial increase in the common equity base over the period.

The use of the ratio of market price to book value per share has been offered as a criterion of investors' appraisal of a utility company. Market price indicates what investors are willing to pay for the designated book value per share (equity investment as per books) and therefore represents one appraisal of that company's future.

It is clear, from the data in Table III, that those companies experiencing the most rapid growth have the highest investor appraisal in terms of the relation of market value to book value per share and that this appraisal is in direct relationship to the speed of growth. It is almost certain that the causative relationship here is not due to growth in itself, but rather is due to the higher earnings on common equity experienced by these fast-growing companies. Investors are willing to bid for these higher earnings in terms of higher market prices for each dollar of book value.

THE analysis with respect to growth of equity of 44 of the 77 largest electric utilities can be summarized briefly: There is a close relation between growth and return on common equity for the sample

TABLE II

COMPARISON OF GROWTH AND RETURN—77 ELECTRIC COMPANIES
PER CENT INCREASE IN TOTAL CAPITALIZATION—1946-55

Number of Companies			*Average Per Cent Increase in Total Capital*	*Average Per Cent Return on Total Capital*	*Average Per Cent Return on Common Equity*	*Per Cent Increase In Common Equity Book Value*	*Per Cent Increase In Market Price of Common Stock*
20	1st	Quartile	289.0%	6.82%	14.55%	95.4%	106.3% (14 Cos.)
19	2nd	Quartile	170.5	6.57	13.60	73.0	72.7 (10 Cos.)
19	3rd	Quartile	129.6	6.17	12.63	69.6	65.2 (12 Cos.)
19	4th	Quartile	82.1	6.19	11.58	38.3	41.2 (8 Cos.)

44 utilities, with the companies experiencing the most rapid expansion also realizing the highest rate of return. Investors are aware of this situation and have bid up the market price of common stock of these companies so that it is 75 per cent above book value (and declines to 30 per cent above book value for the last quartile) and yet the dividend returns on market price, calculated yearly, reflect substantially higher yields for the fast growth companies. Because the yields are higher one might conclude investors require this premium to compensate for the risks and uncertainties associated with the fast-growing companies.

Finally, it may be noted that none of the quartiles showed any appreciable variation in the proportion of increased capitalization from internal or external sources—each group relied upon the market for about 86 per cent of the increased capitalization over the entire period studied.

Summary and Conclusions

COURT and commission decisions attest to the variety of factors which influence allowed rates of return for utilities. Reference to the more important would include cost of capital, quality of service, efficiency of management, degree of stability of income, and rate of growth. It has been suggested here that the last item, rapid growth or expansion, produces additional risks, uncertainties, and difficulties for the utility so that some premium in the rate of return is indicated. In the nonregulated segment of the economy, businesses expand with the hope of greater profits—the traditional incentive in a free enterprise economy. The regulated businesses must rely on commission approval for additional earnings, however.

A SURVEY of 77 of the largest electric operating companies in the U. S. supports the conclusion that the more rapidly growing companies in the sample have tended to realize much higher rates of return on total capitalization and on common equity than have the other companies surveyed—although some companies, such as the three in California, have demonstrated opposite tendencies. Not only have these rapidly growing companies achieved premium rates of return, but also the book value and market value per share have increased to a greater degree to the benefit of the security holders. When one

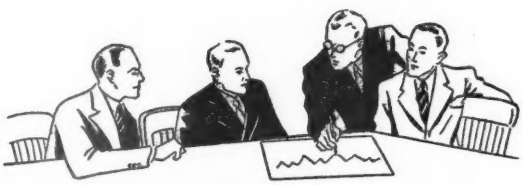
TABLE III

COMPARISON OF GROWTH AND RETURN
PER CENT INCREASE IN COMMON EQUITY—44 ELECTRICS
WITH MARKET PRICES
1946-1955

	Per Cent Increase in Common Equity	*Average Per Cent Return on Common Equity*	*Average Per Cent Market Price Of Book Value*	*Per Cent Return On Average Market Price*	*Per Cent New Capital From Outside Sources*	*Per Cent Common Equity of Total Capital*	
						Average '46-'50	*Average '51-'55*
1st Quartile	509.7%	16.03%	178.08%	9.04%	86.7%	25.5%	32.2%
2nd Quartile	317.4	13.96	157.90	8.73	87.0	28.3	33.6
3rd Quartile	209.7	11.45	135.71	8.45	88.9	29.7	33.8
4th Quartile	82.1	9.23	129.55	7.22	86.0	45.2	41.3

looks at the comparison based upon the increase in common equity for the 44 companies with market values available from 1946, the rapidly expanding companies demonstrate the highest rates of return as well as somewhat higher investors' appraisal expressed in terms of the ratio of market price to book value of the common stock. However, over the period 1946-55, the dividend yields in relation to market value of the growth companies have been higher, suggesting that investors may have demanded a premium return for the attendant risks of the fast-growing utilities.

In conclusion, it has been demonstrated that there is substantial variation in the realized rates of return of utility companies in various states over the period 1946-55. But by design of the regulatory commissions or otherwise, it appears that utility companies experiencing the most rapid growth have realized the higher rates of return—a situation which appears to be warranted in some degree.



It's the Boss' Problem

"One of the reasons why Americans get so much crackpot legislation is a diminished interest among all but those who qualify for high-level executive positions in the economic facts of life. At least this is a fair interpretation of the results of a study by the Council for the Advancement of Secondary Education, which reports that a 'constantly declining' proportion of the population knows enough to vote intelligently on economic matters. A direct effect, showing clearly in the efforts of college students to duck science courses, could be failure to survive in a world fast striding toward full automation.

"In 1951, the Brookings Institution reported a survey indicating that only 7 per cent of all Americans ever had received classroom instruction in economics at any level.

"Blame this on luxury, too much artificial security, regimentation of the mind, or whatever you choose, the altered nature of the economy has as much to do with it as anything. A hundred and fifty years ago, 85 per cent of the American people were self-employed. Today, nearly 85 per cent of the nation's income is derived from working for somebody else. And, in fifty years, the country has shifted from a 60 per cent agricultural economy to one that finds 60 per cent of the population working in urban communities."

—Richard D. Grant,
Director, American Public Service Bureau.

Water Company Financial Problems

There are a number of subjects which give the water utility companies particular concern in the regulatory field, including additions of property which have not yet been put into use for the purpose of fixing a rate base. Modern commissions tend to be more realistic in ruling on the inclusion in the rate base of the construction programs and incompleted construction projects than was formerly the case.

By JOHN H. MURDOCH, JR.*

Introduction

HISTORICALLY, public water supply has been a local enterprise. So long as sources of supply could be found close at hand which were satisfactory in quality and reasonably adequate in quantity, the high cost of transporting water made it advantageous for each community to develop its own water system, attempting to meet its own conceptions of its own needs by using its own resources of money and skills. In fact recognition of a need for public water supply service was very slow in developing. Only after the dangers inherent in drinking contaminated waters were generally recognized and after public water supply agencies learned how to, and did, deliver safe water to customers, were such public supplies accepted as essentials to community life. This historic lack of general acceptance is a principal cause of the difficulties experienced by both publicly and company-owned water systems in meeting mounting demands for service. Until general acceptance came, water rates were kept low to lure customers to the public system

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and away from wells and cisterns. Officials and the public still think in the terms of cheap water, reflecting costs of unsafe competitive service, failing to recognize that modern safe and adequate water service is what the public wants and for which it is willing to pay the cost.

SINCE water service is so predominately a local service, data concerning growth of demand, uses by different classes of customers, capital costs and operating costs show wide variations from system to system. Further, comparable data are difficult to assemble because the thousands of local managements do not report to any one authority and have little uniformity in their methods of compiling physical and operational cost data. It is possible, however, by studying statistics of a few companies, known to be fairly representative, and for which information can be readily secured, to develop some well-founded conclusions regarding present-day problems. This article has been prepared in that way.

Growth of Demand for Water Service

OVER the years practical waterworks men have taken it as a fact that the basic uses of water do not change and that water consumption cannot be increased. Compared with electricity and gas this static characteristic must be recognized. However, air conditioning is a new basic use and available information indicates that individuals are using more water now for the other basic uses than they did ten or twenty years ago. On an annual basis the increase is not large per customer but the total impact, considered in connection with an increase in the number of customers, is significant. In one large group of privately owned companies the average residential metered consumption per day per customer increased between 1947 and 1956 from 139 gallons to 156 gallons, an increase of 12 per cent. In the same period the average number of customers increased 24.5 per cent; metered industrial consumption increased 15.3 per cent; and total consumption increased 40.2 per cent. Statistics for the period 1937 to 1946 reveal similar but somewhat lower rates of increase in consumption. During that earlier period air conditioning was not common and there were governmental restrictions on use of materials which curtailed expansion to take on new customers.

A STUDY of operating statistics of nine companies functioning in generally prosperous districts shows some interesting variations but, again, the data reveal increased demand. In districts where air conditioning is not a large factor, the average residential metered consumption per day per customer showed increases of from 4 per cent to 7 per cent over 1946. In 1956 the range in gallons per day was from 97 at one system to 191 at another. In districts where water is used in important quantities for air conditioning, metered residential use per day per customer showed percentage increases ranging from 15 per cent to 20 per cent. It is interesting to note that in the nine representative companies studied, the highest consumption per day per residential customer was 191 gallons and that this company is not in territory where air conditioning is an important factor. This merely illustrates the wide variations in data due to the influence of complex local factors.

The same nine companies experienced a substantial growth in the average number

of customers served, comparing 1956 to 1946. Three of the nine companies showed lower industrial consumption in 1956 than in 1946 but two of these three, it is known, are being called upon to expand their facilities to serve new or expanding industries. Since industrial consumption tends to be flashy and since facilities for water service must be adequate for years of good local business conditions, statistics for one or two selected years are not sure guides for the future and may fail to reveal true conditions even as of the time chosen. Reflecting all of the influences studied—residential use, number of customers, industrial use—the total pumpage of each of the nine companies was higher in 1956 than in 1946. The percentage increases ranged from 5 per cent to 57 per cent.

TABLE I, this page, shows the various percentage changes between 1946 and 1956. Company 4 was the one with the highest metered consumption per day per average residential customer—191. Companies 6 and 8 are faced with new industrial consumption. They show lower industrial consumption in 1956 than in 1946.

Believing that these nine water companies are fairly representative of companies serving in prospering communities, it is the writer's opinion that this study, set out in tabular form in Table I, illustrates what is happening on a national scale. There is a substantial growth of demand. How great it will be in the future in any one locality can be estimated only after a study of all local conditions. Some systems are experiencing an acceleration in their rate of growth while others appear to have reached stability in that rate but, with the exception of those serving chronically depressed areas, all can anticipate at least a continuation of their last ten years' curve of total pumpage.

Effect of Growth of Demand for Water Service on Net Plant and Property Of Water Companies

THE impact of growth of demand for water service is felt in a variety of ways. A few will be mentioned for illustration.

TABLE I

PERCENTAGE CHANGES—CUSTOMERS, CONSUMPTION, PUMPAGE 1946-1956
NINE REPRESENTATIVE WATER COMPANIES

Company	*Average Number Customers*	*Consumption Per Day Average Residential Customer*	*Annual Industrial Consumption*	*Total Pumpage*
1*	28%	16%	— 2.6%	5%
2*	35%	15%	+59 %	40%
3	34%	4%	+40 %	25%
4	34%	5%	+30 %	40%
5*	36%	20%	+42 %	41%
6*	50%	16%	—33 %	24%
7	58%	6%	+58 %	46%
8*	27%	15%	— 3.4%	8%
9	55%	7%	+32 %	57%

* Serve territory where air conditioning important.

Increasing number of customers will be reflected first in need for new distribution facilities as the trend is toward new residential areas with relatively few new customers on previously existing facilities. Ultimately, added customers will bring about a need for expanded source of supply, treatment, and pumping facilities. New customers going into new homes in new residential subdivisions usually spend two or three years in developing lawns and shrubbery, using liberal quantities of water for a few hours a day. Thus, added customers tend to require distribution system additions far out of parallel with the increase in total annual pumpage caused by their use.

The increase in average daily residential metered consumption ultimately requires additions to all system components leading up to distribution facilities, but here again the first effect of this increased use is to be noted in the distribution system. Bearing in mind the very rapidly expanding use of water in air conditioning and the fact that this is a seasonal use tending to superpose a new high percentage increase in demands at times and on days when hourly and daily demands for normal uses and for lawn sprinkling are at their highest, and that peak hourly rates in large multiples of average daily rates are commonly expected, it can be seen how serious are the strains which even slight increases in average annual daily use impose on a system. Plant must be added out of line with increases in annual pumpage.

INDUSTRIAL use of public water supplies varies, up or down, as the business climate affects the local industries. New industries, new or expanded industrial uses of water almost always require substantial additions to distribution facilities and are more quickly reflected in needs for underlying plant additions than is true of increases in residential use. All business interests and all wage earnings will insist on the community necessity of adequate water supplies when and where needed for local industry.

The timing of plant additions to meet growing needs for water service will vary between plants and as to type of facilities. As a general rule, routine distribution additions can be kept closely in step with customer additions. More lead time and more judgment of future needs are required in the development of distribution system storage, transmission mains, and in the development of the arterial system or large feeder mains to correct overextension in selected areas. Such additions to plant may very well be required at a time when increases in annual pumpage seem negligible.

SUPPLY, treatment, and pumping systems usually call for more advance planning and more lead time in development than other system components and usually involve much larger investment of capital. Where an impounded source of supply must be developed or even enlarged, several years of advance planning, work, and capital expenditure are usually needed. Such an undertaking is so serious and long drawn out that it must be planned to take care of situations to be anticipated at least fifteen years ahead of the date of completion. Present total pumpage is not the measure of the need but is, rather, some evidence of the future need for which provision must now be made.

Financing via Depreciation

"WATER companies, in common with other utilities, can finance their capital additions in part through their annual allowance for accruing depreciation; in part from amortization provisions; and in part through retained earnings. Most water companies are limited under regulation to a depreciation allowance of less than 1.5 per cent of the cost of their depreciable property. With capital budgets ranging between 7 per cent and 150 per cent of net plant and property, it is clear that depreciation allowances are a negligible source of funds. The same is true of the various amortization provisions. Regulatory lag and unnecessarily restricted rate of return result in earnings which have little cushion for retention of earnings in fairness to present stockholders."

In most cases less long-term planning and advance construction are required for treatment and pumping facilities or for supply system developments where the source is a large river or lake. But here again some lead time is essential and economic factors dictate plant additions substantially in excess of those needed for present-day annual pumpage.

TABLE II, page 379, shows, for the same nine representative water companies, percentage changes between 1946 and 1956 in total pumpage, and in net plant and property, together with the capital budget for 1957 and 1958 expressed as a percentage of the net plant and property for 1946. In the last column the 1956 net plant and property plus the two-year capital budget are shown, again, as a percentage of the 1946 net plant and property for each company.

This table shows that net plant and property have been increased in percentage far in excess of the percentage increase in total pumpage. The need for the excess in individual plants could be demonstrated by a detailed study of each plant somewhat along the lines suggested above. Since privately owned water companies cannot afford unneeded plant, it can be assumed that the present and proposed

capital investments are in all cases fully justified.

Operating Revenue Deductions

WHERE system growth does not involve the creation of new supply, treatment, or pumping stations it would be anticipated that the total man-hours of the system per unit of output or per customer would be reduced where there is a substantial increase in output or in number of customers. Table III, page 380, shows that this anticipation was in general well-founded. There were complicating situations in companies 1, 3, and 8. However, increased hourly wage rates and increases in other costs more than counterbalanced the saving in man-hours and resulted in increases in operating ratio except in companies 1 and 2. There earlier rate increases which had reduced the operating ratios appear to have been in great part overcome with advancing costs of one kind or another. New revenues from added customers or added consumption appear always to be met with added costs somewhere, thus resulting in operating ratios tending toward stability or—in a period of rising costs—tending to advance.

Financing Capital Additions

WATER companies, in common with other utilities, can finance their capital additions in part through their annual allowance for accruing depreciation; in part from amortization provisions; and in part through retained earnings. Most water companies are limited under regulation to a depreciation allowance of less than 1.5 per cent of the cost of their depreciable property. With capital budgets ranging between 7 per cent and 150 per cent of net plant and property, it is clear that depreciation allowances are a negligible source of funds. The same is true of the various amortization provisions. Regulatory lag and unnecessarily restricted rate of return result in earnings which have little cushion for retention of earnings in fairness to present stockholders.

The fact is, of course, that during periods of construction and for a period after additions are placed in service, pending rate adjustments and the building up of a history of adequate earnings, the great bulk of new construction funds must be

TABLE II

PERCENTAGE CHANGES—PUMPAGE, NET PLANT AND PROPERTY, 1957-58 CAPITAL BUDGET
1946-56
NINE REPRESENTATIVE WATER COMPANIES

Company	*Total Pumpage*	*Net Plant And Property As Per Cent 1946 Net Plant*	*1957-58 Capital Budget As Per Cent 1946 Net Plant*	*Net Plant and Property Plus Capital Budget As Per Cent 1946 Plant and Property*
1	5%	247%	8%	255%
2	40%	195%	20%	215%
3	25%	218%	14%	232%
4	40%	198%	31%	229%
5	41%	141%	18%	159%
6	24%	200%	40%	240%
7	46%	188%	84%	272%
8	8%	147%	220%	367%
9	57%	227%	108%	335%

secured from the banks on short-term notes and lines of credit. After earnings reflecting the new additions and new operating costs show adequate coverage for bond interest and a satisfactory balance for new stock issue, permanent financing may be undertaken.

TABLE IV, page 381, shows for the nine representative water companies the percentage of the 1956 net plant and property of each which must go into new plant during 1956 and 1957. With the possible exception of Nos. 1 and 3 it is hard to see how substantial borrowings could be avoided. With good credit records over the years and with recognized credit backing of one kind or another, lines of credit could be arranged. Companies without such credit might be forced to sacrifice service. Even companies able to secure adequate loans at prime interest rates may well expect to experience demands for action on the notes stemming from queries by bank directors or examiners.

In periods of tight money and highly selective loan policies in the banks, the long delays in the carrying out of permanent financing due to the long periods of time involved in construction, and the—often—equally long periods which pass before the investment will be recognized in the rate base and be reflected in an increased earnings history, result in embarrassment to management, hardship for stockholders, and an understandable tendency to sacrifice adequate service to expediency.

Capital Additions and Rate Base

THROUGH all the years since Smythe *v.* Ames, one phrase has been held sacred without much thought concerning its true meaning. "Used and useful property" is one of those catch legal phrases which is accepted without much thought. Commission staffs and utility executives and lawyers when faced with a question about inclusion of a piece of property have had the ready touchstone for deci-

TABLE III

COMPARATIVE OPERATING COST DATA
1946-56
NINE REPRESENTATIVE WATER COMPANIES

Company		*Total Man-Hours Excl. Supervisors*	*Total Man-hours Per Million Pumpage*	*Total Man-hours Per Average Customer*	*Operating Ratio*
1	1946	44,000	25.44	6.60	69.1%
	1956	56,800	31.31	6.63	67.4%
2	1946	263,900	26.79	7.64	71.1%
	1956	274,000	19.83	5.87	70.3%
3	1946	93,000	48.87	6.62	54.0%
	1956	132,900	55.29	6.96	58.1%
4	1946	249,000	53.34	7.89	72.7%
	1956	275,000	42.02	6.46	78.4%
5	1946	372,300	40.56	9.04	70.1%
	1956	395,300	30.54	7.04	75.5%
6	1946	104,700	35.49	6.39	60.9%
	1956	123,400	31.82	5.02	72.3%
7	1946	195,200	66.54	8.65	64.7%
	1956	189,900	44.30	5.31	71.7%
8	1946	39,700	17.99	4.44	58.2%
	1956	51,600	21.70	4.51	74.9%
9	1946	337,600	37.95	6.11	60.2%
	1956	505,000	36.05	5.86	62.3%

sion: Was the property at the time of inquiry actually used and useful? As applied to the clearly nonutility property which early entrepreneurs had a habit of foisting on their companies, the phrase had sound application. Also, when applied to minor, revenue-producing distribution additions its application is understandable.

On the other hand, to use the sacred phrase as the ground for excluding from rate base moneys actually expended—or even actually secured and committed—on plant additions required to be made now to assure adequate service now and for a reasonable time in the future, seems to be a misreading of the phrase and to result in a hampering of good public service. Pending physical completion of the addition, money expended on such needed additions, or secured for such additions, is certainly being presently used in the utilities' service and should be in the rate base.

In some water company rate cases the commissions have ordered a rate increase to take effect as soon as certain plant additions were certified as completed and have used their estimated cost as a part of rate base. This does not give relief to a company needing new revenues pending long construction periods but does have the effect of making bank credit easier to secure.

In the case of Plainfield Union Water Company in 1954[1] the New Jersey commission allowed as part of the rate base a plant addition equal to about one-seventh of the total base, although no construction work had been undertaken. The commission had determined that the addition was required and accepted the company's assurance that the project would be completed.

Illinois Bell Telephone Company in 1955[2] was given credit in its rate base for capital "reasonably embarked" in the business in connection with "a construction program." It was also allowed to include in its rate base certain properties held for future use.

Kentucky allowed Southern Bell in a 1957[3] rate case some recognition of its construction program to the end that the rates fixed would be fair to the company for some time after their effective date.

TABLE IV

1957-58 CAPITAL BUDGET AS PERCENTAGE NET PLANT AND PROPERTY 1956 NINE REPRESENTATIVE WATER COMPANIES

	1957-58 Capital Budget Per Cent 1956 Plant And Property
1	3.4%
2	10.1%
3	6.7%
4	15.9%
5	13.6%
6	20.2%
7	44.8%
8	150.0%
9	47.6%

THESE cases indicate that modern commissions are tending to be more realistic and more liberal in rulings on inclusion in the rate base of construction programs and of incompleted construction projects. If this tendency continues, water service will keep pace with mounting demands and the financial problems of water companies will be eased.

[1] Re Plainfield-Union Water Co. (1954) 3 PUR3d 83.
[2] Re Illinois Bell Teleph. Co. (1955) 7 PUR3d 493.
[3] Re Southern Bell Teleph. & Teleg. Co. (1957) 18 PUR3d 113.

Should a Utility Merchandise Appliances?

Part II. *Discount Houses and Other Competition*

This second part will deal with the more recent complications of discount houses and other competition with respect to merchandising policies and practices of operating public utility companies.

By C. E. WRIGHT*

In the preceding instalment of this article[1] the pros and cons of direct merchandising of household appliances, as seen by a number of utility companies, were discussed at some length. There was not space for a further discussion of some of the collateral phases of this general subject, such as:

Price cutting.

The effect on the trade of discount houses.

The strength or weakness of independent retailers.

What the utility can do to assist householders in selecting appliances that will give satisfaction.

The problem of service to appliance users.

Should utilities finance instalment purchases either direct or through retailers?

Our survey indicates that utilities, whether they merchandise appliances themselves or merely act in support of independent retailers, recognize price cutting as the number one problem in the distribution of appliances.

A representative of one of the country's largest appliance manufacturers told the American Marketing Association at a meeting in Philadelphia a few months ago that by 1965 a large proportion of ap-

*Professional writer, resident in Jacksonville, Florida. For additional personal note, see "Pages with the Editors."

[1] Public Utilities Fortnightly, August 29, 1957, p. 299.

pliances would go direct from the factory to the users' homes and that profit margins of distributors and retailers would be sharply reduced.

In a recent issue of its "Dealer Doings," which goes to appliance dealers, M. R. Norton, general sales manager of the Wisconsin Power & Light Company, predicted that such conditions will bring about appliance "supermarkets," but he adds:

> As we look around southern Wisconsin, outside of Milwaukee and Madison, it is difficult to imagine how such a supermarket can exist and still give customers the service they need on appliances that are growing more and more complicated.

He predicts that in metropolitan areas where distributors or manufacturers provide uniform service for all dealers, the business will drift toward the dealer "who finds a way to cut his overhead to the point where he can cut the price a little below his competitor who carries the same brand."

Despite the price-cutting competition, which has been brought about partly by the spreading of discount houses to nearly all parts of the country, a good many utilities are not seriously apprehensive about the future of appliance merchandising whether they are in it themselves or not.

In greater New York, for example, which has been a breeding ground for discount houses and price competition, there is "a very healthy group" of local dealers who provide local service, local attention, and local sales push in the various communities which make up that highly populated area. They are given solid support in their merchandising efforts by the Consolidated Edison Company.

Elsewhere in the country, as in New York, it appears that the experienced retailer is not being forced out of business by the discount houses and other price competitors. In nearly every major area some have been forced to close their doors, but their places have been taken by others who presumably are more experienced, are better merchandisers, and have more solid financial backing, so that the net result is no appreciable loss in the number of appliance retailers throughout the country. Says the director of residential sales of a large midwestern utility:

> The experienced dealer is still in business. He is not being forced out of business. He is realistic and farsighted. He provides service after the sale and has a good reputation with his customers. He promotes aggressively, using effectively the media he has found from experience produces results. He sells not only the appliance but also his store and himself to the customer.

In some of the larger centers of the country it appears that suburban retailers are less affected by price competition and discount houses than those in the downtown business area. In downtown Baltimore some of the independent dealers in the central city have been forced to become discounters in order to exist. One of the large department stores there recently discontinued a separate appliance store, moving it to the sixth floor of the main store and started an advertising campaign which heralded the statement: "We will not be undersold."

¶ "MOST *of the utility companies that have commented on the various problems of merchandising appliances agree that there is little or no need for the utilities themselves to get into the financing of instalment sales, although a few of them do. Also, some utilities will finance dealer paper, generally on those lines which the utility is most anxious to push in order to increase its residential power load. Others do no financing either for dealers or the ultimate consumer because financing is quite readily available, despite 'tight money,' to those with good credit ratings.*"

WHAT has happened in many cities is the integration of appliance selling with other lines such as furniture, hardware, other electrical goods. Department stores are among the most aggressive merchandisers, even though they may not be happy over their profit margins. In Cleveland, which is perhaps fairly typical of the major league cities, there are eight department stores handling appliances. In a less concentrated population area such as that served by the Carolina Power & Light Company, there are 1,200 appliance retailers which average one and a half sales persons each, making a total of 1,800 available for sales work. The combined efforts of all of these people together with advertising support by manufacturers, distributors, and dealers in newspapers and on radio, television, and billboards, and the use of show windows and floor displays in 1,200 establishments, has provided, according to the Carolina Company, "an exposure to traffic the like of which had never been experienced in our territory and has been of inestimable value in creating a desire to live better electrically."

While the discount houses have caused trouble in every area in which they are aggressively operating, there are indications, according to some utility people, that their powers of disruption may be waning. Their cash-and-carry policies and lack of servicing for customers are drawbacks, despite their low prices, and in some cases they have had to draw nearer to the service-type dealer.

"THE discount houses are starting to give more services," observes the Louisiana Power & Light Company. Other utilities seem to agree that the discount house is becoming less of a menace in competing with the independent dealer who is equipped with adequate service facilities, employs easy-payment methods, and stands back of every sale to insure complete satisfaction. In some areas outside large metropolitan centers the discount house has not been a serious factor, yet, as one company puts it, "there is price cutting and always will be," even among the independent dealers.

With all the disturbance in the trade that has been caused by discount houses, the evidence is clear that the total number of independent dealers remains fairly constant. A northern utility takes a census every year of the appliance dealers, electrical contractors, and master plumbers in its service area. "In a year's time quite a number go out of business," this company has found, "but it seems that for several years past there has been an approximately equal number going into business."

From other sections of the country the report is, as one company puts it, "there have been some casualties, but on the other hand some local dealers have recently opened new stores and, if one can judge from the amount of advertising that is done and from our semiannual survey of appliance sales, there is a very respectable volume of business being had."

Most of the utility companies canvassed for their opinions seem to agree with the statement of the Arkansas Power & Light Company that "the problem of service is of chief concern to all utilities and manufacturers, and certainly it is a bottleneck to the development of our industry. Some utilities have assumed service responsibilities, but we believe this is a function of the dealer and manufacturer and an appliance service department. We do not see how we could assume service appliance responsibility without tremendous expense and offering unfair competition to people who are engaged in that business."

On the other hand, those utilities which do direct merchandising have had to take on service work along with their selling. As the Georgia Power Company pointed out in the first instalment of this article on this subject, its low-cost appliance repair service is regarded as the secret of its success in merchandising appliances.

In the larger cities where manufacturers or their distributors maintain service organizations, the problem of service is not so acute as in rural areas.

A company in the South observes:

> In some of the larger towns we have good service, but in the rural areas and smaller towns it is sometimes difficult and expensive to obtain proper service because of the distance and travel required.

Another southern company, Virginia Electric & Power, takes the position that "servicing of appliances by the utility would be highly undesirable because of the tremendous problem of stocking parts." This company admits that servicing is "somewhat of a problem, but not to the degree to require any revolutionary change."

A good many utilities, though not furnishing service themselves, have established service organizations to train dealers and their men. The Carolina Power & Light Company is one that employs service co-ordinators who are capable of training dealers' servicemen both on the job and in groups. In extreme cases where expert help is needed to solve a service problem on any installation a service co-ordinator is made available to the dealer. "These co-ordinators," says the Carolina Company, "have been very effective in working both with manufacturers and distributors in developing and training better appliance servicemen."

The Consolidated Edison Company of New York operates a continuous educational program for plumbers, electricians, and appliance dealers. Many dealers have taken advantage of this by sending their servicemen to the company's free schools, where they receive instruction both from Con Edison's own experts and from instructors furnished by manufacturers.

The Detroit Edison Company services the electrical operating parts of electric ranges, clothes dryers, and electric water heaters at no charge to its customers. The company maintains an extensive repair

service also for the small table appliances, such as irons, toasters, mixers, etc., with a charge for parts only.

The Alabama Power Company has a trained service organization for servicing appliances sold by the company, but it will also respond to any call from dealers or dealers' customers, subject to the availability of parts. "Our calls," says the company, "come mainly from small towns and rural areas where dealers have gone out of business. Central service organizations take care of service in the larger towns." It is generally reported that the service problem is not serious in metropolitan areas where manufacturers or their distributors have service organizations. Says one large utility: "While this service does not meet the high standards that we hope for, it is fairly good."

MOST of the utility companies that have commented on the various problems of merchandising appliances agree that there is little or no need for the utilities themselves to get into the financing of instalment sales, although a few of them do. Also, some utilities will finance dealer paper, generally on those lines which the utility is most anxious to push in order to increase its residential power load. Others do no financing either for dealers or the ultimate consumer because financing is quite readily available, despite "tight money," to those with good credit ratings. In some areas even discount houses are now offering credit terms.

One large utility comments:

> We have looked at the possibility of financing appliances for our dealers. After studying this problem, we felt that the dealer, distributor, and banking institutions are adequately taking care of this situation. Therefore, we do not plan to finance any appliances for dealers.

Another large company has made this arrangement: It finances its own sales through a credit company and offers the same plan to dealers. Payments may be made by purchasers on a monthly plan through any of the utility's offices. But of 1,200 appliance outlets the utility's dealer representatives work with, only 150 have taken advantage of the utility's financing offer, indicating that the bulk of them are having no trouble financing through banks or other lending institutions.

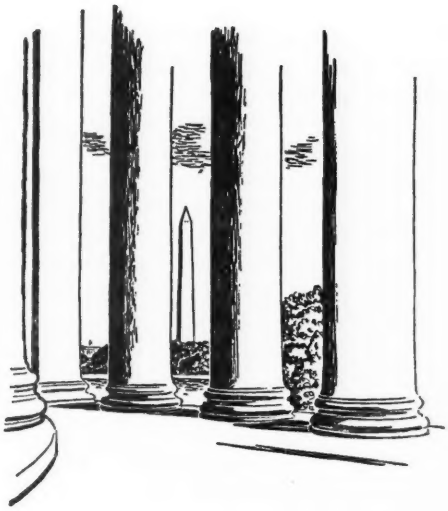
A LARGE metropolitan company which carefully studied the matter of financing paper for retailers decided that the cost of such financing might better be spent in sales promotion for dealers.

Another company's thinking is that to permit customers to pay for appliances on their monthly bills "would undoubtedly promote sales to some extent, but the disadvantages would outweigh the benefits."

Still another company will finance purchases on an instalment basis only for its own employees.

The consensus seems to be that owing to the availability of credit the financing of instalment sales by the utilities themselves seems to be the least of the problems besetting the entire issue of getting appliances distributed to the greatest number of people. The main problem is making the sale and how it should be done, whether by independent dealers, by the utilities, or by both.

Washington and the Utilities



AEC Reactors

PRESIDENT Eisenhower has signed a bill authorizing preliminary work on a program for government-built nuclear power reactors. He said he does not oppose these preliminaries but would oppose spending federal money to build the reactors. Almost simultaneously with this White House announcement, the House passed and sent to the Senate a big appropriation bill which included funds to begin design and engineering studies on the controversial reactors.

Senate Democrats had proposed the reactor-building program over vigorous administration opposition. The program was scaled down considerably before Congress passed the authorizing legislation. Eisenhower said that the measure which he signed "is a great improvement indeed over bills introduced early in the session . . . to build and operate a number of full-scale power reactors at a cost for construction alone of $4 billion of public money."

The President said he was glad "Congress saw the undesirability of proceeding with that program."

At the same time, he noted the bill directed the Atomic Energy Commission to proceed with planning for two reactors which he said the commission considers unnecessary and undesirable at this time.

"While I am not opposed to such projects as studies by the commission," he said, "I wish to make it clear I will oppose the expenditure of public money for construction and operation by the government of any large-scale power reactor, or any prototype thereof, unless private enterprise has first received reasonable opportunity to bear or share the cost."

To do otherwise, he said, would ignore a precept of the basic atomic energy law which states it is public policy to "strengthen free competition in private enterprise."

Funds for AEC

FOLLOWING the approval by President Eisenhower of the AEC authorization bill the House passed a somewhat abbreviated appropriations bill cutting actual funds for some projects authorized in the earlier approved measure as passed by the House. The AEC money bill for the com-

ing fiscal year added up to $2,299,718,-500. The House did add one item of special interest to the electric utilities which had been cut out of the measure as it reached the floor of the House. This was an item of $30 million to encourage private industry to take part in the atomic program.

The bill, last regular money measure of the session, was approved not long after it had been sent to the floor by the Appropriations Committee. The committee ordered an 8 per cent slash in the President's request for the atomic agency.

The House made only the one change in the committee version. That was on a 214-to-135 roll call, whereby it restored the $30 million sought by the AEC to help private utilities seeking a start in the nuclear power program under the government's so-called "third-round" invitations to business.

The committee had protested that the projects involved in the third-round bids had not as yet been specifically authorized or studied by Congress.

THE vote on the AEC money bill brought total cuts voted by the House so far to about $5.123 billion out of presidential money requests this year totaling some $73 billion. Of the total claimed, $3,888,507,204 has been confirmed by final congressional action.

In opposing restoration of the $30 million, Chairman Clarence Cannon (Democrat, Missouri) of the Appropriations Committee declared that Congress would be offering the administration a "blank check" since it did not know the specific power projects involved.

Representative W. Sterling Cole (Republican, New York) who sponsored the amendment, said that "without these funds the (industry - co-operative) program cannot go forward." He said the result would be more and more government activity in the atomic power field.

IN approving the bill, the House upheld the Appropriations Committee's action in refusing to grant funds sought for the Power Reactor Development Company, Detroit. This proposed power project has touched off a round of controversy over the safety of the plant and plans for its financing by 21 utilities and manufacturing concerns involved.

The bill carried funds for the Consumers Public Power District of Nebraska. It also would provide for government construction of reactors for four other public power organizations—the city of Piqua, Ohio, and rural electric co-operatives at Elk River, Minnesota, Hersey, Michigan, and Chugach, Alaska.

It also contained $4 million for work on a plutonium recycle reactor. The device would be built to seek a fuel use for plutonium, now used only in nuclear weapons. The committee also included $3 million for development, design, and planning of a natural uranium, graphite-moderated, gas-cooled power reactor similar to England's Calder Hall atomic power plant.

The reactor, to be built at Arco, Idaho, was a controversial project. Opponents claimed all the necessary information for its construction and operation could be gained from the British.

Niagara Bill Signed

A CERTAIN amount of relief that the Niagara power situation has been resolved was reflected in editorials after Senate passage of a House-approved bill (HR 8643). President Eisenhower signed the bill into law on August 21st. Sober judgment inclines toward the view that this compromise measure, permitting

the New York State Power Authority to go ahead with a power plant at Niagara, was about the best solution which could be expected from the present Congress, at the present time. And time was a very pressing factor in view of the urgency of replacing power supply facilities lost in the expanding New York state area by the Niagara river rock slide of June, 1956, which destroyed much of a Niagara Mohawk Power Corporation plant.

The introduction of a limited federal-type preference clause (reserving power supply for government agencies) is not believed likely to interfere with business-managed company supply or stimulate government ownership agitation in this particular area. The New York State Power Authority, as now constituted, shows no inclination to hold back or crusade for the establishment of "preference customers."

Signing of the Niagara power bill ends a seven-year fight between public and private interests. With the signing went the signal to start as soon as possible what promises to be the second largest power project in the country. The Grand Coulee dam on the Columbia river apparently will remain the largest. Ground breaking for the $6 million development is expected this fall. A plant capacity of 1.8 million kilowatts is foreseen by 1960. The project will be a boon to the many industries in the Niagara frontier area, some vital to national defense. The cost of keeping these industries going has been threatening to cause a migration to places where cheaper power would be available. About 35,000 jobs were made uncertain, testimony before congressional committees indicated.

THE Niagara, being a boundary, was divided for water supply by a treaty made in 1950. While Canada has moved toward providing facilities for using her half of the water, the United States has largely wasted its supply while public and private power interests battled. It was said in debate that Canada, meanwhile, had been using American water.

The power legislation is unusual in one aspect. In the past the bills for hydro-electric developments have been paid by the Treasury. The Niagara project is not expected to use any federal funds. It will be financed by a bond issue, to be handled by the New York State Power Authority, which will build and maintain the project.

The new law provides that at least half of the 1.8 million kilowatts generated will go to state and municipal operations, and also to nonprofit rural co-operatives. A further 10 per cent of productivity is to be made available to neighboring Pennsylvania and Ohio.

SPA Wholesale Power Boost

AN order of the Federal Power Commission approving a 27 per cent increase in the rate the Southwestern Power Administration charges for power sold to rural electric co-operatives and other preference customers was announced on August 17th. The FPC also denied in effect a request for an increase in the rate charged by SPA to Arkansas Power & Light Company and Reynolds Metals Company. The commission said it had no authority to change an existing contract between SPA and the two private companies.

That contract was signed in 1952 to run for thirty years. The higher rate will affect about 250,000 farmers in the five-state area served by SPA—southern Missouri, Arkansas, Louisiana, and parts of Texas and Oklahoma. As of August 9th, when the order was actually issued, they will pay SPA 6.97 mills per kilowatt-hour for power, while the rate SPA charges

Arkansas Power for power the private utility resells to Reynolds will continue at 5.2 mills a kilowatt-hour.

Until the new FPC order went into effect REA co-ops, municipalities, and other preference customers were paying SPA 5.51 mills per kilowatt-hour. The increase in SPA rates was first requested last year by Secretary of Interior Fred A. Seaton. Last January, Seaton amended his request to ask the FPC to nullify the contract between SPA and Arkansas Power & Light and Reynolds Metals Company, in order that the rate to these two companies could also be increased. He said this should be done so that the prices paid by the two private companies would be "comparable to those proposed for other customers of SPA." Seaton asked that SPA be permitted to charge the two companies about $1 million a year more for power than at present. Over the balance of the 30-year contract the additional revenue to SPA would have been about $22 million.

THE commission action was taken by three members. Commissioner Kline was absent when the vote was taken, while Chairman Kuykendall had not, at that time, been confirmed by the Senate to his second term. He was subsequently confirmed 50-25.

Seaton's request that the commission "determine that the rates specified in a contract between SPA and Arkansas Power & Light Company-Reynolds Metals Company are no longer effective and applicable" was dismissed by the FPC. The commission said the Flood Control Act of 1944 delegated to the Secretary of Interior the function of "marketing and disposing of electric energy" produced at federal power projects. The commission said its authority was limited to approving or disapproving the schedules submitted by the Secretary. The order approved four rate schedules requested by Seaton for SPA, superseding a "temporary and interim" rate approved in 1947 and extended at various times during "SPA's development period."

Hopes for Gas Bill

SUPPORTERS of the Harris-O'Hara Bill to relieve gas producers from full FPC control have not given up hope of final enactment despite refusal of either house to vote on the measure at the recent session. In a recent letter to all members of the Independent Petroleum Association of America, Russell B. Brown, its general counsel stated:

> The announcement by Speaker Rayburn that the amendment to the Natural Gas Act (Harris-O'Hara Bill, HR 8525) would not be considered by the House at this session was disappointing but does not alter prospects for final congressional action early next year.
>
> As the legislative session progressed it became apparent that consideration by the Senate would not be possible this year. It was expected the House would voice its approval of this bill to relieve the natural gas producers from federal utility-type controls. Our position has strong and widespread support in the House. I am convinced that a majority of the House will support this bill. I do not believe the delay in action by the House will weaken our position.
>
> The need for such legislation is now also recognized by the executive branch of the government. The support for a rule for the Harris Bill given by Representatives Howard Smith of Virginia, chairman of the committee, and Hugh Scott of Pennsylvania, the center of opposition to the bill, indicates the recognition of this need by congressional leaders despite local political influence.

Telephone and Telegraph

Rural Telephone Co-operatives

DAVID A. HAMIL, Administrator of the Rural Electrification Administration's rural telephone loan program, addressed the American Institute of Co-operation at Fort Collins, Colorado, on August 21st. His topic was "How Rural America Can Get Adequate Telephone Service." In presenting this story to his audience, Hamil took the opportunity to do a little educating on the differences between the electric and the telephone co-operative, and the characteristics of the different services.

Hamil recalled his own co-op organizing activities in Colorado. He noted with pride that he served as a director of the Highline Electric Association for five years. Highline co-op started out, he observed, with 180 consumer-members. Today, he added, it serves 4,000 subscribers over a system built through REA financing.

In this connection, at the outset, Hamil supplied some statistics. Roughly, 1,000 rural electric co-operatives have used almost $3 billion in government financing to serve approximately 4.3 million farm families and other rural consumers, most of whom are members of the co-ops. In addition there are a very few small electric co-ops which have built their systems without REA financing. There are a great number of co-operatives and mutual, non-profit associations furnishing telephone service in rural areas. More than 200 of these, including most of the larger co-operatively owned systems, have borrowed about $185 million in REA loan funds to provide modern dial telephone service to a third of a million subscribers.

The Administrator stated that he is often asked why REA does not make more loans to telephone co-operatives. In explanation of this he noted that more farms were in need of power service when REA was launched than needed telephone service when Congress authorized the rural phone loan program late in 1949. Few small power companies took advantage of REA financing, he continued, but this was not the case under the phone program, which was set up by Congress to include small phone companies. When REA loans to improve and expand rural telephone service were offered, the first to apply and receive loans were existing commercial telephone companies. Of more than 550 telephone borrowers today, about 350 are telephone companies and just a little more than 200 are co-ops.

THEN too, telephone systems spread a network of lines that, in most states,

QUARTERLY STATISTICAL SUMMARY
STATISTICS OF REA BORROWERS
RURAL TELEPHONE PROGRAM
NUMBER OF EXCHANGES AND TELEPHONES BY TYPE OF EXCHANGE, BY STATE

Area	Number Of Borrowers Reporting	Number of Exchanges As of March 31, 1957			Number of Telephones As of March 31, 1957			Telephones Connected	
		Total	Dial	Manual	Total	Dial	Manual	During Quarter	Fiscal Year to Date
UNITED STATES .	434	1,888	1,346	542	530,625	359,318	171,307	31,350	96,331
Alabama	12	54	46	8	21,255	16,282	4,973	1,582	6,008
Arizona	1	3	3	0	502	502	0	340	680
Arkansas	5	43	26	17	14,109	5,881	8,228	788	2,480
California	3	8	2	6	3,674	2,831	843	279	696
Colorado	4	12	8	4	2,351	1,726	625	79	352
Connecticut	0	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0	0
Florida	7	25	20	5	9,090	6,460	2,630	782	1,975
Georgia	20	82	60	22	22,244	14,996	7,248	1,378	3,807
Idaho	7	17	15	2	6,076	5,130	946	328	712
Illinois	14	70	41	29	27,364	12,815	14,549	1,654	4,207
Indiana	12	41	35	6	13,599	10,734	2,865	479	1,652
Iowa	18	81	58	23	32,930	19,229	13,701	1,180	1,698
Kansas	29	126	61	65	34,362	16,324	18,038	2,734	6,583
Kentucky	15	82	63	19	25,241	17,080	8,161	1,750	4,150
Louisiana	16	47	41	6	18,024	17,181	843	995	3,003
Maine	8	24	7	17	6,913	1,842	5,071	178	599
Maryland	0	0	0	0	0	0	0	0	0
Massachusetts	1	1	1	0	805	805	0	51	116
Michigan	8	27	19	8	8,238	5,428	2,810	436	1,088
Minnesota	26	121	92	29	31,515	25,466	6,049	1,614	7,639
Mississippi	6	12	10	2	4,411	4,200	211	235	698
Missouri	20	108	34	74	28,048	9,966	18,082	869	3,487
Montana	7	53	51	2	6,893	6,446	447	495	3,318
Nebraska	3	8	3	5	3,401	894	2,507	89	248
Nevada	1	4	4	0	627	627	0	30	94
New Hampshire	0	0	0	0	0	0	0	0	0
New Jersey	1	6	5	1	3,843	2,252	1,591	232	813
New Mexico	5	22	22	0	2,919	2,919	0	167	499
New York	2	4	2	2	1,485	727	758	46	131
North Carolina	13	35	33	2	17,871	17,226	645	1,718	4,693
North Dakota	10	92	69	23	16,184	11,166	5,018	954	3,104
Ohio	2	3	1	2	566	203	363	0	7
Oklahoma	12	40	26	14	7,147	4,223	2,924	335	890
Oregon	11	34	23	11	8,515	4,968	3,547	410	1,227
Pennsylvania	6	18	13	5	7,953	6,634	1,319	424	999
Rhode Island	0	0	0	0	0	0	0	0	0
South Carolina	14	47	44	3	15,574	14,607	967	529	2,486
South Dakota	12	71	52	19	13,328	8,910	4,418	878	2,340
Tennessee	19	75	58	17	23,600	20,532	3,068	1,396	6,282
Texas	37	248	187	61	40,668	24,023	16,645	3,096	8,734
Utah	4	23	18	5	3,900	3,900	0	118	500
Vermont	1	1	1	0	300	300	0	19	299
Virginia	10	32	22	10	11,054	6,283	4,771	836	2,507
Washington	7	31	29	2	18,654	18,212	442	745	3,181
West Virginia	3	4	2	2	1,663	904	759	95	270
Wisconsin	18	45	32	13	12,446	7,332	5,114	733	1,397
Wyoming	3	4	3	1	696	565	131	36	356
Alaska	1	4	4	0	587	587	0	238	326

leaves a great number of unserved pockets but no large areas of sufficient size to support a completely new system. Farmers face a regulatory problem in attempting to set up a telephone co-operative which may not be encountered in the case of a power co-op. Hamil stated:

> . . . when . . . farmers consider the formation of a telephone co-op, they find that the state regulatory commission has already assigned the territory in which they live to one or more telephone companies or mutuals which offer service—poor though it may be in many cases—to those who live along the roads or near the small towns. If farmers want to form a co-op to serve themselves on a nonprofit basis, they find that they must first buy up the existing properties and, in many states, obtain certification from the state regulatory body. Many of the present co-operative-type REA telephone borrowers were formed in this way or from a combination of several existing mutuals and farmer-owned switcher lines.
>
> An important factor in telephony is the need for connecting company agreements. Power suppliers are basically concerned with generating or purchasing energy and distributing it on a local basis . . .

Hamil also cited differences in cost of service as a factor for consideration. "Telephony is an industry that has relatively fixed unit costs. Each additional telephone call costs just about as much as the previous one," he told the Coloradans.

Governors Proclaim Independent Week

GOVERNOR C. William O'Neill of Ohio is the latest executive to issue a proclamation designating the week of September 8th as Independent Telephone Week. James I. Hunt, president of the Ohio Independent Telephone Association, and Colonel Gustav Hirsch were photographed with Governor O'Neill when he signed the proclamation. It was noted that Ohio was the home of the national independent telephone association's first president, Judge James M. Thomas. He was a resident of Chillicothe. This year's president of the United States Independent Telephone Association, Donald C. Power, is also a native son of the state.

Dan DeHayes, executive vice president of the Ohio association, stated:

> You may be certain that news releases and photograph stories of activities of Ohio independents will be given wide distribution prior to and during the week of September 8th.

Other states whose governors have issued proclamations are: Colorado, Florida, Indiana, Maryland, Minnesota, Missouri, Nebraska, Oklahoma, Tennessee, and Washington.

Phone Rate Refund Repercussions

THE recent adverse decisions in Bell system telephone rate cases in Louisiana have been taken to the people of the state. First, Southern Bell Telephone & Telegraph Company has asked the Louisiana Public Service Commission for an "emergency" rate increase, to become effective immediately. Southern Bell is now refunding about $2.9 million which it was ordered to pay back following its last rate increase request, which refund order was upheld by the Louisiana supreme court. The company has also appealed for public support in advertisements in Louisiana newspapers, claiming that it is in "critical financial trouble."

Financial News and Comment

By OWEN ELY

Can Stringent Regulation Become Self-defeating?

THE accompanying table compares the average current costs of common stock financing (page 395) and the average 1956 returns on investment for four states—two in which regulation is generally regarded as strict and two in which it is reported as more liberal. The average return on investment in 1956 averaged about 5.5 per cent in the two states reported to have more stringent regulation of rates, and 7.6 per cent in the two states regarded as more liberal.

Common stock financing is the big variable in "cost of capital." (The cost of senior (bond) money is much less affected by regulation, being determined almost entirely by the individual utility's capital structure and the ratings assigned the new security by the financial services.) The earnings-price (E-P) ratio, the reciprocal of the more familiar price-earnings ratio, is the basic factor in cost of equity financing whether the latter is achieved by use of rights or by straight sale of stock. Of course the figure, to be accurate, has to be adjusted (see this department, "Cost of Capital—a New Formula," August 29th issue); however, for comparative purposes the E-P ratio figures seem adequate.

We find that as of recent date, the E-P figures averaged about 7.3 per cent for the strict states, compared with 5.4 per cent for the more favorable states—almost the reverse of the rates of return allowed. Thus the current cost of equity financing would be 35 per cent higher in the former states, largely as the result of regulatory factors. Certainly the rapid growth in sales is not a governing factor, for California utilities are outstanding in this respect.

The rate of return works out about 38 per cent higher in the two states enjoying more liberal regulation, but the difference would be less if allowance were made for a special factor in the earnings of utilities in Texas—the extremely low cost of generating electricity with natural gas as

DEPARTMENT INDEX

	Page
Can Stringent Regulation Become Self-defeating?	394
Utility Financing Will Continue Heavy through October	395
Chart—Utility New Money Financing 1955-57	396
Fancy New Formulas for Call Prices	397
Table—Utility Analyses Published Recently	398
48 Million Kilowatts New Generating Capacity Scheduled	399
Engineers Favor Realistic Partnership Policy for Hydro Projects	399
Table—Electric Utility Stocks	400, 401, 402

fuel. Thus despite the relatively high return on investment in Texas, residential rates in that state are about 11 per cent lower than in New York state.

Utility Financing Will Continue Heavy through October

THE chart on page 396 shows the amount of new money financing (by the larger electric utility companies) on a cumulative basis in the first seven months of 1957, as compared with 1955-56. The total amount of electric utility financing this year has exceeded 1956 by about 55 per cent, and gas financing by about 45 per cent. Despite high money rates, some 22 per cent of the electric utilities (for which the record has been kept) have increased the amounts which they originally intended to issue this year while 6 per cent have made slight reductions in their scheduled financing.

THE Irving Trust Company, which compiles these figures, reports that the electric utilities are currently scheduling the sale of $306 million new issues in September and $211 million in October, while November and December may run somewhat lower and at a more normal seasonal volume. The gas utilities have completed most of their program and are planning to issue only $200 million new issues during the balance of the year. American Telephone and Telegraph plans

TWO STATES WITH STRINGENT REGULATION

State	*Company*	*8/19/57 Price*	*Share Earns.*	*Price-Earn. Ratio*	*Earn.-Price Ratio*	*1956 Return on Investment*
New York	Consolidated Edison	42	$3.00*	14.0	7.1%	5.0%
	Long Island Lighting	21	1.43	14.7	6.8	5.4
	N. Y. State Elec. & Gas	34	2.80*	12.1	8.3	5.8
	Rochester G. & E.	26½	2.27	11.7	8.5	5.4
	Central Hudson G. & E.	15½	1.00	15.5	6.5	5.6
	Average			13.6	7.4%	5.4%
California	Pacific G. & E.	46½	$3.32	14.0	7.1%	5.5%
	So. Cal. Edison	46½	3.12	14.9	6.7	5.4
	San Diego G. & E.	18	1.41	12.8	7.8	5.8
	Calif. E. P.	13½	.96	14.1	7.1	5.6
	Average			14.0	7.2%	5.6%

TWO STATES WITH MORE LIBERAL REGULATION

Florida	Florida Power & Light	46	$2.80	16.4	6.1%	7.0%**
	Florida Power Corp.	52	2.66	19.5	5.1	6.4
	Tampa Electric	31½	1.71	18.4	5.4	6.7
	Average			18.1	5.5%	6.8%
Texas+	Houston Lighting	54	$2.58	20.9	4.8%	8.6%
	Texas Utilities	42½	2.44	17.4	5.7	8.1
	Average			19.1	5.3%	8.4%

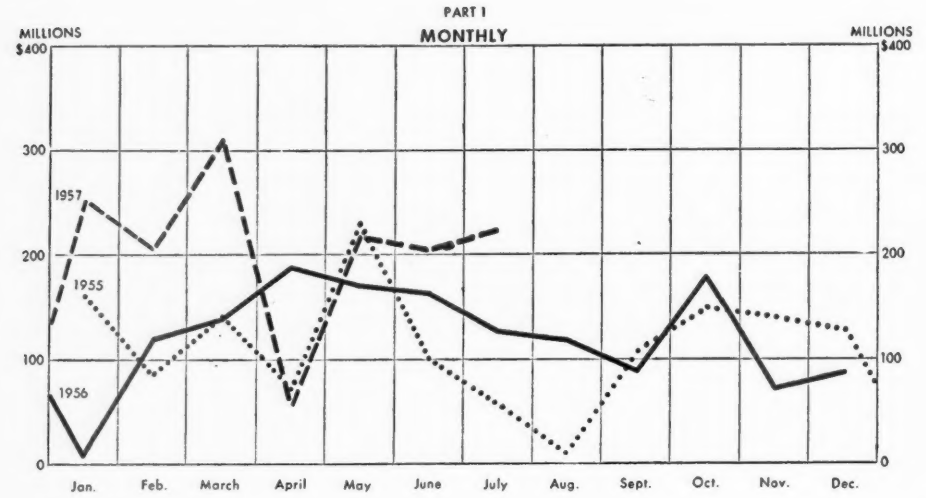
*Adjusted for deferred taxes.

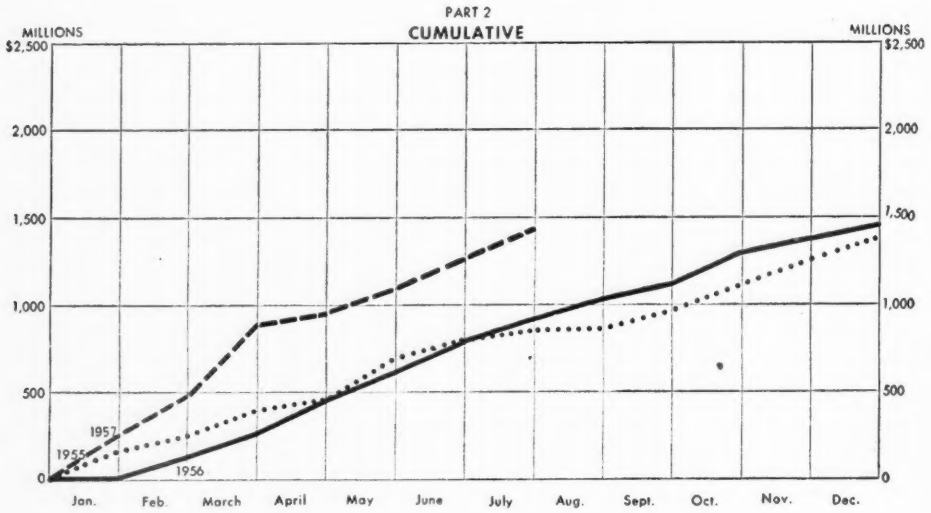
**Approximate. Rate decision allowed 7 per cent on rate base as fixed by commission, or about 6½ per cent on company rate base.

+Regulation only by municipalities (state law mentions 8 per cent as fair return).

PROGRESS OF NEW MONEY FINANCING

BY UTILITY COMPANIES RENDERING PRINCIPALLY ELECTRIC SERVICE*





*Covers companies included in the calendar with assets over $35,000,000.

Source, Irving Trust Company

to sell $250 million debentures October 29th.

The utilities are now raising more of their requirements through debt financing, the bank reports. Thus 88 per cent of the $950 million issues planned by electric utilities in the last four months of the year will be in bonds.

Fancy New Formulas for Call Prices

INSTITUTIONS prefer sinking funds as a rule as a protective device to sustain the value of their holdings, but when they can obtain a very high coupon rate they do not like to have the entire issue refunded a year or so later, as happened with many utility bonds in 1953-54. Back in the 1920's and 1930's a few issues were made completely noncallable—Public Service Electric & Gas still has outstanding its first and refunding 8s issued in 1937 as well as two other issues. Despite recent bond market conditions, no utility has yet issued a completely noncallable bond, although a few issues are noncallable or nonrefundable for five to ten years. Presumably, a nonrefundable issue could be redeemed by proceeds of a common stock issue, treasury cash from sale of property, etc.

The two Washington commissions which have much to say about utility financing—the Securities and Exchange Commission and the Federal Power Commission—are both opposed to noncallable provisions even if limited to a few years. Moreover, in general their policy is not to approve any initial call price other than the sum of the retail offering price and the coupon rate. Hence, issues subject to their approval have had to bear the brunt of high money rates. This factor accounted for the 6.25 per cent coupons on the Michigan Wisconsin Pipe Line, Michigan Consolidated Gas, and Puget Sound Power & Light first mortgage bonds issued in June. (However, the high coupon rate in itself provided a fairly high call price and in the case of Puget Sound another three-quarters of a point was added.) The first two companies were subject to the SEC under the Holding Company Act, and the third was subject to the FPC because of its federal hydroelectric licenses.

THE Bell system seems to have evolved a special method of its own, using declining "unadjusted premiums" instead of a yield basis. Instead of adding the coupon rate to the offering price to set up the initial redemption price, an even figure is added with declining amounts in later years. Thus, the New England Telephone & Telegraph debenture 4¾s were made callable in the first year at the offering price plus 4.50; in the next two years the amount added dropped to 4, in the fourth year to 3.50, and in the fifth year to 3. American Tel. & Tel. debenture 4⅜s added 6 points to the offering price in the first year, 5.5 in the second year, 5 in the third year, 4 in the fourth year, and 3 in the fifth year. The New York Telephone bonds with a higher rating added 5 points in the first year, 4 in the next two, and 3 in the fifth year. The Texas Electric Service 4¾s issued in July, and the pending issue of Pacific Power & Light bonds, follow the same general pattern of declining redemption premiums as the telephone companies have been using.

The Central Illinois Light Company offering of first 4⅝s had a rather complicated call provision which may well be used in other issues. This would permit redemption at the very reasonable initial price of 105.80 (offering price plus 5 per cent) unless the issue should be redeemed from *proceeds of borrowing*. The initial call price would then reflect the minimum

or floor price of 98½ set up in advance of the bidding, plus an arbitrary 10 points, making a total of 108.50. Thus if redeemed from proceeds of borrowing the call price would be increased by 2.7 (the difference between 108.50 and 105.80).

ONE method now used is to specify a coupon or yield basis for any refunding issue. Thus Washington Water Power first 4⅞s of 1987 are initially callable at 105, but no bonds may be redeemed at the call price prior to July 1, 1962, with borrowed funds having an interest rate of less than 4⅞ per cent. Tennessee Gas Transmission debenture 6s cannot be redeemed for about ten years from borrowings with an interest cost of 6.08 per cent or less. Transcontinental Gas Pipe Line first 5s are nonrefundable at less than a 4.95 per cent yield basis during the life of the bonds.

The special new rules for regular redemption do not seem to have affected the call prices for the improvement and sinking fund or the renewal and replace-

UTILITY ANALYSES PUBLISHED RECENTLY

Company Analyses	*Firm*	*No. Pages*	*Issued*
American Natural Gas	Fahnestock & Co.	2	July
American Natural Gas	Goodbody & Co.	3	June
Baltimore G. & E.	Argus Research Corporation	2	April
British Columbia Power	Sutro & Co.	2	April
Calif. Electric Power	Walston & Co., Inc.	3	—
Calif. Electric Power*	Josephthal & Co.	2	June
Central Illinois Light	Josephthal & Co.	2	Aug.
Central Louisiana Elec.	Josephthal & Co.	2	May
Central Louisiana Elec.	Loewi & Co.	5	Mar.
Cincinnati G. & E.	Argus Research Corporation	2	July
Cincinnati G. & E.	Josephthal & Co.	1	July
Citizens Utilities Co.	Mitchum, Jones & Templeton	3	April
Consol. Natural Gas	Argus Research Corporation	2	June
Consumers Power	Josephthal & Co.	2	June
Duquesne Light	Argus Research Corporation	2	June
Electric Bond & Share	Hirsch & Co.	4	July
El Paso Natural Gas	Argus Research Corporation	—	July
Florida Power & Light	Josephthal & Co.	2	July
Florida Power Corp.	Josephthal & Co.	2	July
Gas Service Co.	H. Hentz & Co.	4	May
Interstate Power	Josephthal & Co.	2	July
International Utilities Corp.	A. M. Kidder & Co.	2	Aug.
Kansas Gas & Electric	Josephthal & Co.	2	June
Kansas Gas & Electric	White, Weld & Co.	5	July
Long Island Lighting	Ira Haupt & Co.	8	May
Montana-Dakota Utils.	Paine, Webber, Jackson & Curtis	1	July
Montana Power Co.	Josephthal & Co.	2	June
Niagara Mohawk Power	Argus Research Corporation	2	July
Ohio Edison Co.	Goodbody & Co.	—	June
Pennsylvania Power & Lt.	Argus Research Corporation	2	May
Peoples Gas, Light & Coke	Oppenheimer & Co.	3	Mar.
Phila. Sub. Water Co.	Suplee, Yeatman, Mosley Co.	5	July
Pub. Serv. Co. of Indiana	Argus Research Corporation	2	July
Pub. Serv. Co. of N. H.	A. G. Becker & Co.	2	May
Pub. Serv. Elec. & Gas	Josephthal & Co.	1	June
So. Colorado Power	G. A. Saxton & Co., Inc.	3	April
Spokane Nat. Gas	H. Hentz & Co.	3	June
Suburban Propane Gas	Hill Richards & Co.	4	May
Tampa Electric Co.	Goodbody & Co.	2	June
Tucson G. E. L. & P.	Robert Patterson & Co.	1	—
Union Gas of Canada	Wills, Bickle & Co.	3	May
Washington Gas Light Co.	Argus Research Corporation	2	April
Washington Water Power Co.	Josephthal & Co.	2	July
West Penn Electric Co.	Hirsch & Co.	3	June

*Similar lists have appeared about three times a year in earlier issues.

ment fund, which are fixed through the life of the bonds at 100 and interest when the bonds are sold at a discount; or at the same yield to maturity as in the original retail offering, when the offering price is at a premium.

The writer wishes to acknowledge assistance received from the financial department of Ebasco Services Incorporated in preparing the above.

48 Million Kilowatts New Generating Capacity Scheduled

DURING the first half of 1957 about 3.5 million kilowatts new capacity was installed by U. S. electric power systems (including public power agencies). In this period about 12 million kilowatts of new equipment was ordered for future use. As of July 1, 1957, a total of 48 million kilowatts generating capacity was on order, as follows:

1957 (second half only)	8.7	million kw.
1958	16.6	"
1959	12.0	"
1960 or later	11.1	"
Total	48.4	million kw.

The present total compares with a figure of 46.4 million scheduled as of April 1st, most of the 2 million kilowatts new orders being placed for 1960 or later delivery.

In the Interim Electric Power Survey of July, 1957, the EEI Survey Committee referred to the difficulties incurred in some areas this summer due to temporary shortages of capability when there was an unusually hot spell with resulting sudden heavy demands for air conditioning. During these brief periods the situations were helped by voltage reductions and customer co-operation in reducing loads.

Some of these difficulties appeared due to the fact that the industry customarily does maintenance work on generators in the summer months. The situation thus may require changes in scheduled maintenance practices, and possibly an increase in gross margins of capacity, the committee points out.

Engineers Favor Realistic Partnership Policy for Hydro Projects

THE Engineers Joint Council, representing 15 engineering societies, has issued a report entitled "1957 Restatement of Principles—Sound National Water Policy." The study stresses the need for integrity in financial analyses, reimbursement, uniform policy, and impartial review of proposed projects—principles which might well be inculcated in the thinking of the government power bloc in Congress. Among the various suggestions, one of the most important is that the federal government should undertake projects "only when they will increase the wealth of the nation," and that the costs and expected benefits reported for a proposed federal project should be detailed and thoroughly inclusive. Any expedient to give unsound projects the benefit of surplus values which may accrue from sound projects should be avoided.

The identifiable beneficiaries (both direct and indirect) of a federal water resource project should reimburse the federal government fully for their shares of the shares of the project cost, and arrangements for such contributions should be made before construction begins. Paul J. Raver (former Bonneville Administrator, who made numerous footnoted reservations to the report) held that "this requirement could be a serious barrier—some functions are nonreimbursable because important to the general welfare." The "general welfare" idea or ideal,

which is highly elastic in application, is probably a major factor in the "river basin development" philosophy of Dr. Raver and other government power advocates. It also applies to all manner of social projects, such as slum clearance, the soil bank, federal aid for schools, "pork barrel" projects, etc. In effect the purpose is to apply the nation's general taxing power to benefit special areas or population groups through federal subsidies or contributions.

THE efforts of the Joint Council to set up accurate standards of measurement for both costs and benefits are highly constructive and should be followed up on specific projects. It is precisely in this field of intangible "welfare" benefits that government power advocates make their emotional and frequently unwarranted appeals. Measurement and allocation of potential benefits in dollars and cents are the only real yardsticks that should be employed—otherwise government power advocates can squander many millions of federal funds on unwarranted schemes. It must be admitted, however, that the idea of "reimbursement" of the federal government raises many problems, both political and financial.

The engineers point out that production of power, when not coupled with other objects such as navigation, irrigation, etc., is the responsibility of local interests. Local enterprise should be encouraged and given priority over the federal government in the development of power. Power from federal projects should be priced to reflect the costs actually incurred by the government. The present "preference clause" in the sale of power is inequitable, and should be repealed in favor of a partnership policy between government and private power agencies.

DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mill.)			*8/21/57 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earnings*	*% Increase*	*Aver. Incr. In Sh. Earns. 1951-56*	*Price-Earn. Ratio*	*Div. Payout*	*Approx. Common Stock Equity*
$268	S	American G. & E.	35	$1.44m	4.1%	$2.10Je	2%	9%	16.7	69%	34%
46	O	Arizona Pub. Ser.	25	1.12	4.5	1.79Je	28	13	14.0	63	31
11	O	Arkansas Mo. Power	17	1.00c	5.9	1.33Je	5	10	12.8	75	31
32	S	Atlantic City Elec.	30	1.30	4.3	1.68Je	10	10	17.9	77	33
132	S	Baltimore G. & E.	34	1.80	5.3	2.25Je	D2	8	15.1	80	45
7	O	Bangor Hydro-Elec.	31	1.90	6.1	2.65Je	D3	8	11.7	72	35
5	O	Black Hills P. & L.	23	1.40	6.1	2.25Ap	1	1	10.2	62	27
99	S	Boston Edison	47	2.80	6.0	3.45De	1	2	13.6	81	50
21	A	Calif. Elec. Power	14	.76	5.4	.96Je	8	16	14.6	79	36
21	O	Calif. Oreg. Power	29	1.60	5.5	2.30De	9	5	12.6	70	33
8	O	Calif. Pac. Util.	28	1.60	5.7	2.31Je	3	6	12.1	65	30
63	S	Carolina P. & L.	24	1.20	5.0	1.75Jy	3	2	13.7	69	42
28	S	Cent. Hudson G. & E.	15	.80	5.3	1.00Je	D9	10	15.0	80	34
21	O	Cent. Ill. E. & G.	31	1.60	5.2	2.35Je	—	11	13.2	68	33
35	S	Cent. Ill. Light	47	2.60	5.5	3.86Jy	D3	8	11.2	67	42
51	S	Cent. Ill. P. S.	28	1.60	5.7	2.34Jy	D6	12	12.0	68	38
13	O	Cent. Louisiana Elec.	35	1.60	4.6	2.01Je	D4	8	17.4	80	32
35	O	Cent. Maine Power	21	1.40	6.7	1.71Jy	2	4	12.3	82	34
128	S	Cent. & South West	38	1.60	4.2	2.24Je	4	15	17.0	72	35
12	O	Cent. Vermont P. S.	16	1.00	6.3	1.10Jy	D14	1	14.5	91	31
114	S	Cincinnati G. & E.	25	1.20f	4.8	1.95Je	D10	7	12.8	62	43
7	O	Citizens Util. "B"	15	.90a	6.0a	1.16Je	7	10	13.0	78	42
111	S	Cleve. Elec. Illum.	37	1.60	4.3	2.47Je	D9	8	15.0	65	49
4	O	Colo. Cent. Power	25	1.20	4.8	1.49Je	D9	8	16.8	80	33
48	S	Columbus & S. O. E.	29	1.60	5.5	2.45Je	13	5	11.8	65	36
360	S	Commonwealth Ed.	40	2.00	5.0	2.81Je	3	8	14.2	71	47
11	A	Community Pub. Serv.	23	1.20	5.2	1.86Je	10	15	12.4	65	52

Annual Rev. (Mill.)		(Continued)	8/21/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
2	O	Concord Elec.	44	2.40	5.5	2.67De	D1	1	16.5	90	64
71	O	Conn. Lt. & Pr.	18	1.00	5.6	1.21Jy	D2	7	14.9	83	39
23	O	Connecticut Power	42	2.25	5.4	2.84Ma	D2	4	14.8	79	41
522	S	Consol. Edison	42	2.40	5.7	3.20Je	1	8	13.1	75	39
208	S	Consumers Power	45	2.40	5.3	3.19Je	D4	6	14.1	75	43
74	S	Dayton P. & L.	45	2.40	5.3	3.27Ma	D7	8	13.8	73	38
39	S	Delaware P. & L.	46	1.80	3.9	2.72Je	20	10	16.9	66	35
237	S	Detroit Edison	40	2.00	5.0	2.53Jy	11	8	15.8	79	46
130	A	Duke Power	31	1.20	3.9	2.02Je	10	20	15.3	60	52
95	S	Duquesne Light	34	2.00	5.9	2.43Je	D1	4	14.0	82	34
31	O	East. Util. Assoc.	32	2.20	6.9	2.31Je	D9	0	14.8	95	34
2	O	Edison Sault Elec.	16	.80	5.0	1.13Je	D1	13	14.2	71	42
12	O	El Paso Elec.	22	1.00	4.5	1.35Je	10	8	16.3	74	41
12	S	Empire Dist. Elec.	19	1.20	6.3	1.58Je	5	3	12.0	76	31
5	O	Fitchburg G. & E.	49	3.00	6.1	3.65De	4	3	13.4	82	45
49	S	Florida Power Corp.	52	1.80	3.5	2.66Je	5	19	19.6	68	32
110	S	Florida P. & L.	47	1.28	2.7	2.80Je	25	25	16.8	46	38
189	S	General Pub. Util.	36	2.00	5.6	2.94Je	D2	12	12.2	68	40
6	O	Green Mt. Power	14	1.00	7.1	1.13Je	D8	7	12.4	88	36
56	S	Gulf States Util.	36	1.60	4.4	2.22Je	D2	14	16.2	72	32
22	A	Hartford E. L.	59	3.00	5.1	4.13Je	D6	12	14.3	73	49
5	O	Haverhill Elec.	38	2.35	6.2	2.67De	2	—	14.2	88	100
21	O	Hawaiian Elec.	45	2.30	5.2	3.24Je	D4	—	13.9	71	36
78	S	Houston L. & P.	54	1.60k	3.0	2.61Jy	D4	20	20.7	61	46
8	O	Housatonic P. S.	21	1.40	6.7	1.43De	1	—	14.7	98	53
27	S	Idaho Power	35	1.40	4.0	2.18Je	3	7	16.1	64	36
82	S	Illinois Power	27	1.50	5.6	1.87Je	D3	6	14.4	80	35
43	S	Indianapolis P. & L.	28	1.50	5.4	2.07Je	3	5	13.5	72	39
20	S	Interstate Power	13	.80	6.2	.83Je	D22	3	15.7	96	30
33	O	Iowa Elec. L. & P.	28	1.50	5.4	1.98Je	D13	10	14.1	76	31
39	S	Iowa-Ill. G. & E.	30	1.80	6.0	2.43Je	D2	3	12.3	74	41
37	S	Iowa Power & Lt.	27	1.60	5.9	2.07Je	3	2	13.0	77	35
32	O	Iowa Pub. Serv.	15	.80	5.3	1.06Jy	D10	5	14.1	75	35
13	O	Iowa. South. Util.	20	1.28	6.4	1.72Jy	D5	8	12.8	74	37
56	S	Kansas City P. & L.	35	2.00	5.7	2.84Je	3	8	12.3	70	35
30	S	Kansas G. & E.	28	1.32	4.7	2.27Jy	11	12	12.3	58	29
45	S	Kansas Pr. & Lt.	24	1.30	5.4	2.09Je	2	9	11.5	62	31
37	O	Kentucky Util.	25	1.28	5.1	2.09Je	1	9	12.0	61	34
7	O	Lake Superior D. P.	23	1.20	5.2	1.60Je	D4	6	14.4	75	38
6	O	Lawrence Elec.	26	1.75	6.7	1.46De	D22	D	17.8	83	63
98	S	Long Island Ltg.	21	1.20	5.7	1.43Je	D7	6	14.7	84	32
52	S	Louisville G. & E.	27	1.10	4.1	1.68Je	D14	4	16.1	65	40
8	O	Lowell Elec. Lt.	53	3.00	5.7	3.37De	D8	D	15.7	89	58
9	O	Lynn G. & E.	32	1.60	5.0	2.10De	3	8	15.2	76	77
9	O	Madison G. & E.	44	1.80	4.1	4.30Je	NC	11	10.2	42	50
4	A	Maine Pub. Serv.	17	1.08	6.4	1.42Je	51	3	12.0	76	33
5	O	Michigan G. & E.	45	1.60b	6.6b	4.05Je	—	14	11.1	40	37
159	S	Middle South Util.	34	1.70	5.0	2.38Je	20	4	14.3	71	34
28	S	Minnesota P. & L.	26	1.40	5.4	2.22Je	—	6	11.7	63	36
2	O	Miss. Valley P. S.	29	1.40	4.8	2.14Jy	D14	3	13.6	65	31
12	A	Missouri Pub. Serv.	13	.72h	5.5	1.07Jy*	6	20	12.1	67	33
6	O	Missouri Util.	22	1.36	6.2	1.87Je	D1	2	11.8	73	32
39	S	Montana Power	44	2.00	4.5	3.60Je	7	6	12.2	56	37
142	S	New England Elec.	16	1.00	6.3	1.17Je	D3	0	13.7	85	34
44	O	New England G. & E.	16	1.05	6.6	1.41Jy	D7	5	11.4	74	42
45	O	New Orleans P. S.	45	2.25	5.0	2.67Je	6	0	16.9	84	38
2	O	Newport Elec.	17	1.00	5.9	1.23Je	D7	4	13.8	81	30
83	S	N. Y. State E. & G.	35	2.00	5.7	3.02Je	—	8	11.6	66	39
244	S	Niagara Mohawk Pr.	29	1.80	6.2	1.91Je	D17	4	15.3	94	33
81	O	Northern Ind. P. S.	38	1.92	5.1	2.99Je	5	7	12.7	64	35
139	S	Nor. States Power	16	.90	5.6	1.18Je	—	8	13.6	76	34
9	O	Northwestern P. S.	15	1.00	6.7	1.29Je	D10	3	11.6	77	26
129	S	Ohio Edison	48	2.64	5.5	3.58Jy	D4	9	13.4	74	44
48	S	Oklahoma G. & E.	42	1.80	4.3	2.44Jy	3	9	17.2	74	35
15	O	Otter Tail Pr.	26	1.60	6.2	2.20Je	D3	7	11.8	73	38
471	S	Pacific G. & E.	47	2.40	5.1	3.32Je	D5	13	14.2	72	35

Annual Rev. (Mill.)		(Continued)	8/21/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
48	O	Pacific P. & L.	28	1.60	5.7	2.16Je	NC	8	13.0	74	29
129	S	Penn Power & Lt.	43	2.40	5.6	3.31Je	2	11	13.0	73	28
225	S	Phila. Elec.	37	2.00	5.4	2.47Je	D2	6	15.0	81	43
35	O	Portland Gen. Elec.	24	1.20	5.0	1.64Je	D3	6	14.6	73	36
64	S	Potomac Elec. Pr.	20	1.20	6.0	1.58My	2	8	12.7	76	39
83	S	Pub. Serv. of Colo.	41	1.80i	4.4	2.79Je	9	8	14.7	65	39
300	S	Pub. Serv. E. & G.	30	1.80	6.0	2.35Je*	D5	—	12.8	77	38
75	S	Pub. Serv. of Ind.	35	2.00	5.7	2.62Je	7	4	13.4	76	36
29	O	Pub. Serv. of N. H.	16	1.00	6.3	1.43Jy	13	13	10.7	70	32
12	O	Pub. Serv. of N. M.	16	.80	5.0	1.11Je	4	7	14.4	72	37
25	S	Puget Sound P. & L.	26	1.36	5.2	1.75Je	10	10	14.9	78	61
58	S	Rochester G. & E.	27	1.60	5.9	2.27Je	3	10	11.9	70	35
19	O	Rockland L. & P.	18	.80	4.4	1.05De	9	11	17.1	76	30
8	S	St. Joseph L. & P.	24	1.40	5.8	1.98Je	14	7	12.1	71	40
51	S	San Diego G. & E.	18	.96	5.3	1.41Je	D6	6	12.8	68	40
8	O	Savannah E. P.	19	1.00	5.3	1.19Je	D10	4	16.0	84	30
9	O	Sierra Pacific Pr.	23	1.20	5.2	1.98Je	27	14	11.6	61	27
195	S	So. Calif. Edison	46	2.40	5.2	3.12Je	D7	3	14.7	77	37
43	S	So. Carolina E. & G.	21	1.10	5.2	1.43Je	2	20	14.7	77	36
7	O	Southern Colo. Pr.	14	.70	5.0	1.32My	10	9	10.6	53	43
228	S	Southern Co.	24	1.10	4.6	1.55Jy	6	10	15.5	71	35
16	S	So. Indiana G. & E.	29	1.60	5.5	2.14Je	10	5	13.6	75	35
7	O	So. Nevada Power	18	1.00	5.6	1.58Je	10	15	11.4	63	34
1	O	Southern Utah Power	17	1.00	5.9	1.41Je	25	1	12.1	71	39
3	O	Southwestern E. S.	20	1.16	5.8	1.64My	D1	4	12.2	71	27
39	S	Southwestern P. S.	29	1.40	4.8	1.76Je	14	4	16.4	80	30
26	A	Tampa Elec.	31	1.20	3.3	1.71Je	18	14	18.1	70	36
146	S	Texas Utilities	45	1.44	3.2	2.44Je	16	15	18.4	59	38
40	S	Toledo Edison	13	.70	5.4	1.01Je	D3	5	12.8	69	29
14	O	Tucson G. E. L. & P.	32	1.40	4.4	2.14Je	20	14	15.0	65	35
122	S	Union Elec. of Mo.	27	1.52	5.6	1.88Ma	9	11	14.4	81	36
33	O	United Illuminating	24	1.30	5.4	1.64Je	3	7	14.6	80	48
5	O	Upper Peninsula Pr.	27	1.60	5.9	2.06Je	D5	10	13.1	78	37
41	S	Utah Power & Lt.	25	1.20	4.8	1.76Je	5	9	14.2	68	43
118	S	Virginia E. & P.	23	1.00	4.3	1.38Je	4	14	16.7	73	34
26	S	Wash. Water Power	33	1.88	5.8	2.39Je	9	14	13.8	79	41
132	S	West Penn Elec.	26	1.50	5.8	2.10Je	—	9	12.6	72	33
64	O	West Penn Power	45	2.40	5.3	3.12Ma	D5	13	14.4	77	33
11	O	Western Lt. & Tel.	33	2.00	6.1	2.92Je	—	10	11.3	68	33
26	O	Western Mass Cos.	39	2.20	5.6	3.11Jy	3	10	12.7	71	56
105	S	Wisc. El. Pr. (Cons.)	30	1.60	5.3	2.37Je	D1	5	12.4	67	40
40	O	Wisconsin P. & L.	27	1.36	5.0	1.94Je	9	4	13.9	70	36
37	S	Wisconsin P. S.	21	1.20	5.7	1.84Je	5	6	11.4	65	36
		Averages			5.3%			9%	14.0	72%	
		Foreign Companies									
203	S	Amer. & Foreign Pr.	15	$1.00	6.7%	$1.68Je	20%	2%	8.9	60%	47%
149	A	Brazilian Trac.	9	.75n	8.3	2.19De	86	D	4.1	34	73
68	A	British Columbia Pr.	48	1.20	2.5	2.34De	14	27	23.1	51	27
17	A	Gatineau Power	29	1.40	4.1	2.28De	15	15	12.7	61	31
35	O	Mexican L. & P.	14	—	—	1.67De	D7	62	8.4	—	46
13	A	Quebec Power	29	1.20	4.1	1.99De	15	14	14.6	60	52
54	A	Shawinigan Wtr. & Pr.	86	1.80	2.1	4.25De	22	26	20.2	42	40

A—American Stock Exchange. B—Boston Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Based on average number of shares. **Calendar year 1955. a—Estimated annual rate. The "A" stock received stock dividends. b—Also 3 per cent stock dividend December 31, 1956, which is included in the yield. c—Also 2 per cent stock dividend January 10, 1956. f—Also 5 per cent stock dividend August 15, 1956. g—Cash dividends of $2.50 in 1956 included 30 cents extra; 10 per cent stock dividend also paid April 30, 1956. h—Also stock dividend of one share for each 200 shares held September 12, 1956. i—Also 10 per cent stock dividend November 16, 1956. j—Also 10 per cent stock dividend August 31, 1956. k—Also 5 per cent stock dividend December 17, 1956. m—Also 2 per cent stock dividend January 10, 1956; 3-for-2 split June 15, 1956. n—Also 5 per cent stock dividend December 28, 1956.

What Others Think

Repricing—A Method for Current Valuation

THE controversial and much heralded field of fair value concept for public utility rate making received an up-to-date going over in a recent summary by the applicant in the New York Telephone Company rate case before the New York Public Service Commission. This case, which is being heard for the second time *in toto,* is the result of a remand from a reversal of the commission's opinion by the New York court of appeals, 12 PUR3d 399. Construing the New York statute to require that telephone rates be fixed with consideration to the current cost of property, the court sent the case back to the commission because it had previously refused even to consider evidence on that point.

Henry J. Friendly, special counsel for the New York Telephone Company, in his closing statement before the New York commission, gave a summary of his views as to the rules of law and evidence which apply in this situation under the New York statute, especially with respect to the value concept. The court had made the point that the commission was not excused from considering value simply because it might be difficult to ascertain, as compared with cost.

Regarding this, Mr. Friendly suggested that original cost might itself be a convenient tool or point of departure for arriving at value. He stated on this point:

> . . . the legislature plainly did not think it was giving the commission an impossible task when it required the commission to find the value of the telephone company's property. . . . One tool that might be thought of is the original cost of the company's property. If there had been no substantial change in price levels since this plant was constructed, the original cost of the plant, less an appropriate deduction representing an allowance for the fact that a portion of its useful life had expired, would give, in our opinion, a reasonable approximation of present value.
>
> However, in 1957 the "if" on which any such conclusion would depend does not exist in fact. There has been a very substantial change in price level. The dollar of 1940 bought approximately twice as much as the dollar in 1957; and to combine the nominal dollar costs of articles of plant acquired with these dollars of widely varying purchasing power does not produce a result that is meaningful in terms of present value.

THE telephone company counsel pointed out that the same number of dollars that would have built a six-story building in 1945 would only build a one-

or two-story building in 1956. So that if one were to add the dollar costs of the two buildings (one, the number of dollars that built six stories in 1945, and the other, the number of dollars that built the smaller building in 1956) there would be a substantial deficiency or understatement of the monetary value today of both buildings combined. The point was made that where there has been a radical change in the price level the historical cost figure does not produce a dollar value amount which has any real meaning.

But, it does not follow that determining the value of the utility's plant is a hopeless procedure, according to Mr. Friendly. It merely means that the dollars which bought so much more plant in the past must be restated in terms of the deteriorated dollar of today so that the units of measure will actually be the same. There was testimony in this case that while almost half of the company's plant was installed before mid-1946, that earlier half was built with only one-third of the dollars spent to build the whole property. Proceeding on this assumption, the company testimony indicated that the value of the company's total plant in New York state was about $2 billion present-day dollars compared with a little over $1.5 billion net book cost or an increase of about one-fourth in value over cost.

There had been some objection to the company's records because they were not based on actual count of items.

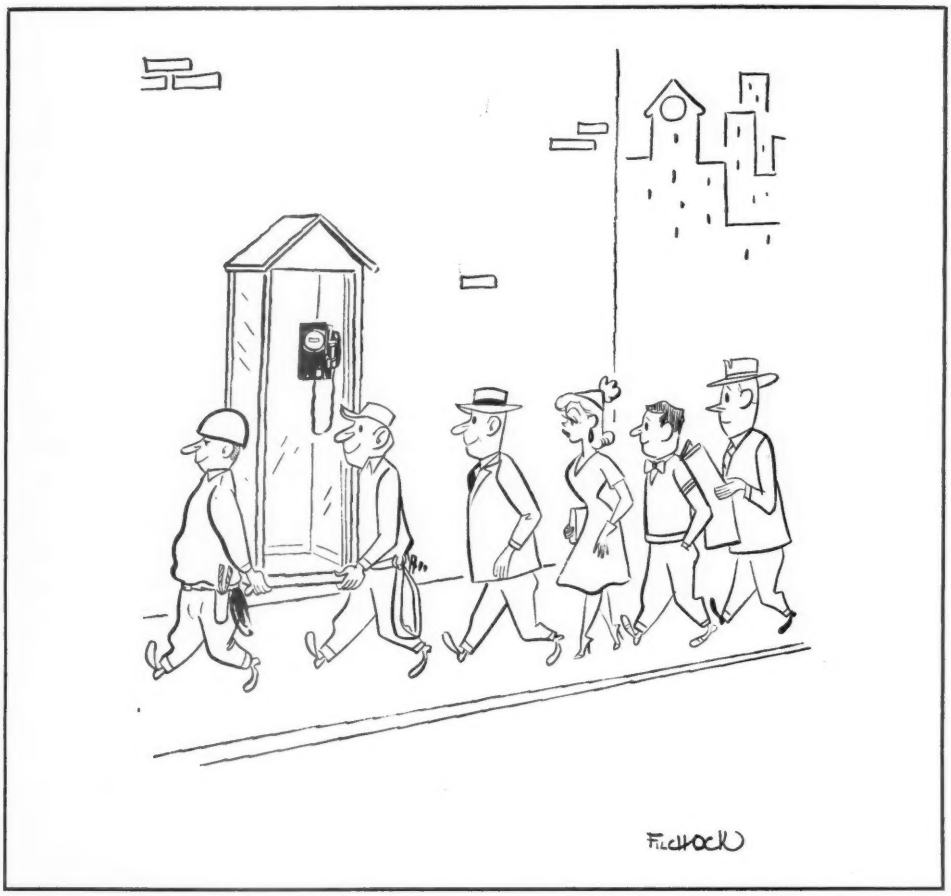
THE telephone company's counsel suggested that the cost of maintaining records might be increased to a point exceeding the value of the records kept. Mr. Friendly stated on this:

> Let me make one thing crystal clear on this point: The telephone company can keep whatever records the people of this state want to pay for having kept; but record keeping is not done without expense, and we believe people are far more interested in good telephone service at reasonable rates than in having records that would satisfy every perfectionist. The question of what records are to be kept is one for the good judgment of management, shared, in the case of a regulated industry, by the regulatory commissions, but always keeping in mind that the burden of the cost of that record keeping must ultimately rest on the consumer.

The telephone company's records conform to all governmental requirements. Indeed, they go very much further, as they would have to do for the company to run its business. The continuing property records are constantly being checked—by reports from the field, by customer billings, by audit inventories, and by continuing use in the day-to-day operation of the business. Any discrepancies were shown to be relatively small in comparison to the amount of property involved.

Such records involve estimate and expert opinion and the exercise of judgment. This was admitted, but it was argued that the results were fair. And, if results were fair for purposes of showing actual dollars, the same process would also be fair for use as a starting point for restating historical dollars in current dollars. Some of the accounts, especially buildings and central offices, were repriced by applying index numbers to historical investment as distinguished from pricing them out of an inventory.

COUNSEL argued that whatever errors might have crept into the repricing method (whether pointed in one direction or the other) would be trifling compared



with the gigantic error that would result from the blind assumption that — despite price increases shown in the indices —present value of the plant is no greater than its book cost. In other words, said Mr. Friendly, "book cost is one figure that we know is not only somewhat wrong, but completely wrong as an indicator of present value." He commented that this can actually be lost sight of in the process of quibbling over errors which lie in a much smaller range of significance. Thus, in an argument over whether the price of cable has increased by 105 per cent or only 95 per cent, the debate might wax very interesting, but it should not obscure the basic agreement that the price has virtually *doubled*.

Another matter of general principle was the question of obsolescence which Mr. Friendly says does not greatly differ whether property is stated in terms of its dollar cost or repriced in current dollars.

One other objection was raised that the company had repriced (in current dollars) the dollars that were originally spent in building the plant in successive stages—as it was actually built—without allowing for the fact that some costs might have been less than if the entire plant

could have been constructed in one operation. This is the reverse of the old objection to reproduction cost valuation, where assumptions of value were made (such as repaving over mains which were not actually repaved) for construction that never took place. Mr. Friendly's explanation on this is as follows:

> Our principal answer is that we have not at any time in this case proceeded on the basis of determining what the cost of reconstructing the entire plant of the New York Telephone Company in one operation would be. The plant had to be built in stages, as it was built, as a matter of good business sense and of meeting the company's obligations under the Public Service Law to provide telephone service when and as it was needed. No one has suggested that if rates were to be fixed on the basis of historical dollars, a disallowance should be made because of the savings that might have been experienced if the plant had been constructed in one operation rather than over the years, as it had to be. There is no basis for any different view when we translate these historical dollars into current dollars.

How much weight should the commission—responding to a court mandate to consider current value—give to reproduction cost evidence, arrived at by such repricing methods? Mr. Friendly argued that any arbitrary scaling down, such as splitting the difference between two judgment figures, without some degree of rationalization would not be a proper consideration. Conceding that the commission is not bound to follow company evidence, he continued, the commission is not free to disregard evidence which has not been discredited or rebutted in some way. He said:

> The commission cannot lawfully say, "Oh, yes, we have reviewed the evidence on reproduction cost, and on the basis of that evidence we disagree with some of the details of your repricing, and we come out at a figure of $1,730,000 as against your $1,750,000." So far the commission can lawfully proceed. What I don't think it can lawfully do is go on and say, "Because we don't like the whole idea, or for some other reason, we are nevertheless going to find that the value of your plant is halfway, or some other portion of the way, between this figure, reduced as we find it should be reduced, and net book cost."

In other words, according to the company counsel, inflation is a fact. And in this case it seemed to be a fact in the order of 26 per cent over net book cost. There would certainly be no rationale in "splitting the difference" with a rule-of-thumb assumption that it was only 13 per cent.

The telephone company's counsel went on to restate the company's position with respect to cost of capital and its application to a value rate base. But, the foregoing is an interesting example of a modern argument on an old and bitterly contested basic principle of bygone years. What the commission will do about these arguments and counterarguments remains to be seen. The interesting fact here is that the old arguments have been dressed up with new techniques such as repricing original cost dollars.

Gone are the days of physical engineering appraisals, whether of the "horseback" or of the inventory "nut and bolt count") variety. In bygone years when differences in reproduction cost estimates, by opposing engineering appraisal witnesses, ranged as high as 100 per cent,

the regulatory commissions were often driven in desperation to use short cuts. Splitting the difference often seemed to be the only way out of an interminable battle of the experts. It may be with modern methods, new and precise tools and techniques can be fashioned that will make the value concept more palatable and persuasive to some regulatory bodies than it was in bygone years. The proof of the pudding will be in the eating.

—F. X. W.

Time for AEC to Go?

One question, so far little considered, is whether the U. S. Atomic Energy Commission has outlived its usefulness and should go out of business. Such a course has been seriously proposed by Dr. Athelstan Spilhaus of the University of Minnesota, where he is dean of the Institute of Technology. Dr. Spilhaus' proposal is more in sorrow than by way of criticism, of which he has none at all for the work of the AEC so far. He acknowledges, as indeed the whole country does, the immense and unique contributions of AEC to our strength and safety, but he contends that AEC was an *ad hoc* body, created to deal with a special emergency which is no longer present. He thinks its functions ought to be taken over by permanent government agencies, private competitive enterprise, and normal research in the universities.

In his address to a recent meeting of the American Society of Newspaper Editors, Dr. Spilhaus states:

> In the very best ordered society or organization it is sometimes necessary to set up a special group or agency (temporarily if possible) to meet a new challenge. Such was the case in the Atomic Energy Commission.
>
> The Atomic Energy Commission was established because the first applications of atomic energy emerged in secrecy for wartime purposes. It was necessary at that time to have a special group to guide these applications during a transition period into permanent channels.
>
> We must therefore accept the idea that the commission was to effect a transition. This implies that the Atomic Energy Commission is an *ad hoc* commission. In the forefront of any *ad hoc* commission's main order of business should be the effort to get itself out of business. . . .
>
> The Atomic Energy Commission has failed in this respect in that during ten years it has not substantially reduced the activities under its direct or indirect control. . . . On the contrary, it has become a monopoly in the area of nuclear energy which is broadening its scope to embrace all aspects of high energy physics and their potential applications.

In doing this the commission dominates in a loosely defined field which covers a broad range of research, education, and private industrial development to develop useful applications. It tends to exert controls in atomic energy which would logically and under other circumstances become extensions of normal functions of long-established government bodies—for example the Federal Power Commission in the regulatory field in intrastate development of electric energy resources.

In this respect Dr. Spilhaus' suggestion has a familiar ring. For many years the difficulty of combining regulatory and operating functions within the same government agency has resulted in some questionable hybrids. The old Civil Aeronautics Authority, for example, had to be

split up into two boards to separate operating and regulatory functions. The Secretary of Agriculture in regulating stockyards and the Tennessee Valley Authority in fixing rates for power distribution by its wholesale municipal contractors, have both had to struggle with this unnatural, if not conflicting, dual responsibility. What would Dr. Spilhaus do about the many tasks which the AEC now performs? In a word he would distribute them among permanent agencies, private industry, and universities. He states:

> There are, of course, certain functions and controls which properly should rest with the government. Such things as: the development of nuclear weapons insuring the secrecy of such development, and safeguarding the nation from hazards to health and well-being that may result from them.
>
> Even these that are proper tasks of government are not best carried out under one closely held group. It is time that they were split up and that appropriate permanent divisions in government be charged with their execution. . . .
>
> It can be freely admitted that certain government agencies may not be able, at the present time, to discharge these duties as well as the AEC. But the way to correct this is to strengthen them to enable them to take over the extension of their normal responsibilities—not to weaken them by perpetuating a special agency to do part of their job. . . .

WHAT would be the effect (of separating and allocating AEC functions) on future confidential activities and responsibilities of the AEC? Dr. Spilhaus says about this:

> Everyone will agree that it is desirable to reduce secrecy as far as possible consistent with the real needs of secrecy that attach to weapons and weapons systems. It is well-nigh impossible to find agreement as to where "as far as possible" is. National security can be jeopardized by public fear bred of ignorance and can be made more secure if this fear is replaced by reasonable public caution and responsibility based on information.
>
> Our national security, which depends on the imaginative productiveness of industry, can be jeopardized if secrecy prevents industry from playing its fullest possible rôle. It is our government's stated policy to stimulate the industries' rôle in the development of atomic energy application yet there are still major stumbling blocks in getting the necessary fresh information initially to the potential contribution. It is the old question of how the industry starts even if it has competent people and an interest in the field.
>
> Fresh information is necessary to get the idea that establishes the "need to know" that opens the door to fresh information. And so the tiger chases its tail around the tree.

As to the rôle of private industry, the Minnesota dean states that "such industry must be free to make its maximum contribution in order to put this nation in the forefront of nuclear power progress." He sees similar beneficial results from his proposal in the field of research. The great scientists that formed the core of the landmark atomic developments of World War II were drawn mainly from the universities. They could continue in the universities—now that the Gordian knot of atomic fission has been cut—subject, of course, to federal aid and some supervision for the co-ordinated effort.

It must be admitted that the commission has made some gestures of delegation

to other groups. Dr. Spilhaus says on this:

> The National Academy of Sciences has brought out a report on radiological hazards. The United States Public Health Service deals with the off-site radiation monitoring. The National Science Foundation administers certain AEC fellowships.
>
> The Commerce Department issues informative bulletins. The Department of Defense has a degree of responsibility in the weapons program. The universities have been assisted and brought in to the national laboratories in various ways. Industry, at least certain segments, has worked extensively for the AEC. And there are others.
>
> In some of these cases, the delegation is extensive; in others, it is accomplished in such a feeble way as to seem like a smoke screen.
>
> The important thing is that here already is the experience which could be used to segment AEC's overmany functions—we have already a blueprint for the delegation of functions so that AEC could get out of much of its business smoothly without interruption of the work if it can be allowed to relinquish control.

Further arguments are possible. The powerful and monopolistic character of the AEC, inevitable though it was in the beginning and through the early atomic-age years, offers certain special temptations. There is the temptation within the organization to struggle for control and so for immense personal influence on the nation's policies. From outside, there is the temptation to use the prestige of the originally nonpartisan AEC for political purposes, and thus in fact to wear away its prestige. Against these considerations is the danger that the country's security might be decreased during a period of changeover. For the thoughtful study this question deserves, Dr. Spilhaus' point of view provides a sound basis.

WHAT are the chances for the adoption of such a solution? Very slim at least for the foreseeable future. Indeed it is difficult to imagine Congress ever putting the AEC to death with presidential approval. It is even more difficult to imagine the AEC voluntarily coming to Congress and saying its own prayer of *nunc dimittis.*

More likely, if at all, will come a piecemeal solution along the lines used to solve the Civil Aeronautics Authority problem. It is possible that the AEC regulatory function might some day be wrapped up in a single package and turned over to the FPC or some new or specialized regulatory agency. Its duties of pure scientific research and laboratory experimentation might likewise be turned over to some future specialized bureau. There may be other limbs sawed off here and there from the fast entangled tree which has so swiftly grown from the original AEC planting.

But it is a fairly safe bet that the mother root will stay alive and flourish and probably get bigger. Such is the soil and climate of Washington bureaucracy. As a cynical observer once said: "Few die; none resign."

—F. X. W.

Growth of Subsidized Government Ownership

EUGENE A. YATES, chairman of the board of The Southern Company, continues to be a driving force in the forefront of the battle of the business-man-

aged electric utilities to fight off the encroachment of Socialism—creeping or otherwise. In a recent address to the Rotary Club of Nantucket, Massachusetts, Mr. Yates found small evidence that there was anything creeping about the expansion of so-called public power.

He states:

> Some twenty years ago the amount of government power in this country was practically nil, but starting with Roosevelt in the early thirties, government power has expanded at an ever-increasing tempo until today about 20 per cent of the consumers in the United States receive electricity from government plants as against 80 per cent from private power plants. The expenditures in this period by the government for these power facilities total more than $10 billion including loans by REA; or expressing it another way, $10 thousand million. The sum is staggering. This money comes from federal taxes, compulsorily exacted from the wages and earnings of American citizens. It is not free enterprise money, voluntarily invested by the people.

He reminded his audience that Massachusetts taxpayers have contributed $338 million to the $10 billion program, based on the fact that Massachusetts pays 3.38 per cent of all federal taxes. He also referred to the fact that there has been created by government a privileged class of power consumers designated as "preference customers." They have preference rights to purchase electric energy generated at government-owned power sources. They are municipalities, co-operatives, and other agencies of federal, state, and local governments, which are wholly exempt from federal income taxes and to a great extent exempt from local taxes as well.

Mr. Yates noted that the private power companies in the United States have an approximate investment in electric plant of $33 billion and serve some 43 million customers. Last year they paid federal taxes of $1,074,000,000, equivalent to 3.25 per cent of their capital investment, or 14.3 cents of each dollar of their gross revenue. This was for federal taxes alone. Total taxes paid by these companies, including state and local assessments, amounted to 23.4 cents of each dollar of their gross revenue.

In order to obtain from the public, at favorable rates, the funds required to build power plants and facilities to serve its consumers, an investor-owned electric company should earn at least 6 per cent on the value of its plant. As a matter of fact, an even higher rate of return is generally conceded to be requisite in the face of today's inflationary trends; however, for purposes of this discussion, Mr. Yates used 6 per cent. This required return (6 per cent), coupled with federal taxes (3¼ per cent), totals 9¼ per cent. This 9¼ per cent is included in the electric bills of 80 per cent of the electric power consumers of this country and a private company must earn sufficient revenues to pay these sums if it is to continue to exist. On the other hand, government power pays little or no taxes, and the average interest charge on capital supplied by the taxpayers is less than 2 per cent.

The consumers of government power enjoy an aggregate subsidy of about 4 per cent on a total government power investment, according to The Southern Company executive. This subsidy is costing the taxpayers about $400 million a year, of which the Massachusetts share would be $14 million a year.

The speaker referred to the windfall of about $10 million a year which

WHAT OTHERS THINK

EXPENDITURES FOR FEDERALLY OWNED AND REA PROJECTS AS OF JUNE 30, 1956

State	Government Power Total	Per Cent National Total	Per Cent Federal Tax Burden Borne By States	State's Share Of Total Power Expenditures	State's Share Of Subsidy to Government Customers
Alabama	$ 429,680,808	4.29%	1.02%	$ 102,034,627	$ 4,081,385
Arizona	230,897,307	2.31	0.47	47,015,956	1,880,638
Arkansas	191,379,842	1.91	0.49	49,016,635	1,960,665
California	618,600,359	6.18	9.81	981,333,030	39,253,321
Colorado	247,540,734	2.47	0.89	89,030,214	3,561,209
Connecticut	0	0	1.97	197,066,878	7,882,675
Delaware	4,366,588	0.04	0.40	40,013,579	1,600,543
Florida	83,996,810	0.84	1.80	180,061,106	7,202,444
Georgia	198,864,401	1.99	1.34	134,045,490	5,361,820
Idaho	196,924,261	1.97	0.25	25,008,487	1,000,339
Illinois	86,259,386	0.86	7.46	746,253,252	29,850,130
Indiana	53,543,044	0.54	2.62	262,088,944	10,483,558
Iowa	132,076,467	1.32	1.26	126,042,774	5,041,711
Kansas	86,183,381	0.86	1.06	106,035,985	4,241,439
Kentucky	555,510,389	5.56	1.09	109,037,003	4,361,480
Louisiana	46,568,105	0.46	1.16	116,039,380	4,641,575
Maine	2,111,379	0.02	0.43	43,014,598	1,720,584
Maryland	15,128,800	0.15	1.93	193,065,520	7,722,621
Massachusetts	0	0	3.37	337,114,405	13,484,576
Michigan	62,532,884	0.62	5.63	563,191,127	22,527,645
Minnesota	139,538,785	1.40	1.68	168,057,033	6,722,281
Mississippi	119,923,838	1.20	0.48	48,016,295	1,920,652
Missouri	261,997,587	2.62	2.50	250,084,870	10,003,395
Montana	365,716,620	3.66	0.35	35,011,882	1,400,475
Nebraska	214,197,482	2.14	0.66	66,022,406	2,640,896
Nevada	99,362,520	0.99	0.20	20,006,790	800,272
New Hampshire	6,791,702	0.07	0.31	31,010,524	1,240,421
New Jersey	1,369,210	0.01	4.22	422,143,261	16,885,730
New Mexico	83,045,825	0.83	0.34	34,011,542	1,360,462
New York	4,997,017	0.05	12.65	1,265,429,442	50,617,178
North Carolina	188,618,845	1.89	1.42	142,048,206	5,681,928
North Dakota	384,767,735	3.85	0.23	23,007,808	920,312
Ohio	54,350,320	0.54	6.48	648,219,983	25,928,799
Oklahoma	174,664,257	1.75	1.00	100,033,948	4,001,358
Oregon	574,640,510	5.75	0.99	99,033,609	3,961,344
Pennsylvania	30,498,309	0.30	6.98	698,236,957	27,929,478
Rhode Island	0	0	0.52	52,017,653	2,080,706
South Carolina	103,473,956	1.03	0.66	66,022,406	2,640,896
South Dakota	410,792,782	4.11	0.22	22,007,469	880,299
Tennessee	1,388,563,185	13.89	1.24	124,042,096	4,961,684
Texas	365,404,253	3.65	4.39	439,149,032	17,565,961
Utah	61,395,609	0.61	0.37	37,012,561	1,480,502
Vermont	3,697,615	0.04	0.16	16,005,431	640,217
Virginia	154,642,673	1.55	1.62	162,054,995	6,482,201
Washington	1,224,124,576	12.24	1.69	169,057,372	6,762,296
West Virginia	1,120,445	0.01	0.75	75,025,461	3,001,018
Wisconsin	98,805,788	0.98	2.13	213,072,309	8,522,893
Wyoming	188,152,690	1.88	0.17	17,005,771	680,232
Alaska, D. C.,	56,575,733	0.57	1.14	114,038,700	4,561,548
Totals	$10,003,394,802	100.00%	100.00%	$10,003,394,802	$400,135,792

	TVA	REA	Power Dams[1]	Total	Total Subsidy
Total Investment	$2,095,776,643	$2,755,235,812	$5,152,382,357	$10,003,394,812	
% Tax Subsidy	3.25%	3.25%	3.25%	3.25%	5.35%
% Interest Subsidy[2]	4.0 %	2.0 %	1.2 %	2.10%	

[1] Other than TVA.

[2] Based on present government interest rate of 4 per cent.

Note: Approximately 80 per cent of TVA expenditures; approximately 100 per cent of REA expenditures; approximately 60 per cent of federal dam expenditures.

Average subsidy—75 per cent of 5.35 per cent, or 4.0 per cent.

manufacturers of aluminum and phosphoric acid and other private industrial companies have found in cheaper power rates allowed them by the TVA. (Industrial users account for 13 per cent of TVA power sales.) Yates claims that the total subsidy enjoyed by all TVA consumers amounts to about $80 million a year, of which the Massachusetts share would be about $2.5 million a year. He then referred to a similar situation in the Northwest where 40 per cent of the sales of Columbia river power is devoted to aluminum and other heavy industry at rates below cost, reflecting no tax payments and only a part of the government's cost of money in the capital market of today.

THE way Mr. Yates figures it, the U. S. taxpayers are providing a power plant and system costing $640 million for the use of these private manufacturers, resulting in an annual subsidy of $30 million a year. Mr. Yates then referred to strong sympathy in the recent session of Congress for additional power development including Hell's Canyon, Niagara, TVA revenue bonds, and atomic energy plants. If all these would have been approved (and the Niagara and some of the AEC plants were approved), the federal taxpayers would have to foot a bill of more than $2 billion with "discriminatory benefits owing largely to preferred customers." ers."

The federal tax subsidy of this project would be over $60 million a year with its pro rata tab of about $2 million a year.

IN conclusion the speaker paid his respects to the ill-fated and now defunct Dixon-Yates contract with which his name became the hyphenated partner. Mr. Yates claims that this not only was a good contract for the government but that it was entered into by his company and allied companies at the invitation of the government through the Atomic Energy Commission. Cancellation he attributed entirely to politics and the colossal lobby for government power which has developed in Washington. The participating companies are now arguing their suits for damages, as the result of the cancellation of this contract, in the U. S. court of claims.

The accompanying table was Mr. Yates' estimate of the amount the taxpayers of each state contributed to the subsidy for these various federal government adventures in the power business.

"To my personal way of thinking, a liberal man must be a thinking man, one who has learned to evaluate his experience and the world about him independently and freely, using the ideas of others only as the starting points of his own analysis and creativity.

"But this alone does not complete the picture. The liberal not only has his own concepts of right and wrong, desirable and undesirable, etc., but is always prepared to accept criticism and to try to understand opposing views.

"He constantly stands ready and is anxious to reappraise his own conclusions, ideas, and concepts of truth in light of differing theories and new information available to him."

—HAROLD R. MEDINA,
Judge, United States circuit court of appeals.

The March of Events

Catco Decision Stands

THE FPC has refused to reconsider its June 24th decision to permit the so-called Catco group to sell gas to Tennessee Gas Transmission Company, Houston, Texas.

The Catco group (made up of Continental Oil Company, Atlantic Refining Company, Tidewater Oil Company, and Cities Service Production Company) plans to produce from new gas fields in submerged lands off the Louisiana coast. The FPC approved the transaction, even though the price for the gas was the highest ever authorized for a sale to Tennessee Gas Transmission Company. The commission said it is already investigating the rates charged by members of the Catco group and has the power to order lower rates later on if it decides they are necessary. Reconsideration was sought by Public Service Electric & Gas Company, Long Island Lighting Company, and Lake Shore Pipe Line Company, all customers of Tennessee Gas, and the New York Public Service Commission.

Missouri Basin Power

PLANS for inviting applications for additional power to become available in the eastern division of the Missouri river basin have been approved by Interior Secretary Seaton. These plans are in accord with the present procedure for marketing power from the project. The additional power will be generated at the new power plant of Oahe dam (South Dakota), now under construction; the second power plant of Fort Peck dam (Montana); and the Big Bend power plant which is authorized but still in the planning stage.

Reclamation Commissioner Dexheimer said the power will become available for use in blocks beginning in 1961 and reaching a maximum in 1964. It is anticipated that a total of about 635,000 kilowatts will be available for sale as firm power upon completion of these three power plants. The firm power will be marketed in the present eastern division, comprising all of North Dakota, South Dakota, and portions of Minnesota, Montana, Iowa, and Nebraska.

Alabama

Power Strike Ends

ELECTRICAL workers of the Alabama Power Company went back to work on August 21st, but the issue which touched off their five-day strike—a wage increase—was still unsettled.

The eight locals over the state—each represented at a six-hour meeting between the company and officials of the International Brotherhood of Electrical Workers—apparently had voted to go back to work, following an order by the IBEW Atlanta office to go back to work or face disciplinary action.

International Representative J. B. Pate of the Atlanta office had called the strike "unauthorized" and illegal and "in violation of our Constitution."

There were no major interruptions in Alabama Power service over the state during the strike of more than 2,000 IBEW workers. Supervisors handled the routine maintenance work during the work stoppage. The strike started over the union's demand for a 7 per cent wage increase. The company offered 5 per cent.

Arkansas

Gas Rate Case Ends in Settlement

A TWO-YEAR legal fight over a $4.3 million rate increase for Arkansas Louisiana Gas Company ended last month when the federal government dismissed an appeal suit in Pulaski circuit court.

A spokesman for U. S. Attorney Osro Cobb's office said the suit was dismissed at the request of the Department of Justice, which telegraphed Cobb that contracts were being negotiated with Ark La.

The suit was filed July 18th.

An Ark La official said the Department of Defense had reached agreement with the company on a long-term contract similar to those with other industrial users, and that the contract now requires only to be signed. Ark La supplies large quantities of gas to the government at the Pine Bluff arsenal and the naval ammunition depot at Shumaker.

The state public service commission approved the rate boost in April, 1955, and 11 of 34 affected industrial firms launched court action against it. Seven of these litigants withdrew from the suit before it got to the state supreme court, which ruled the commission had used an incorrect method of figuring the increase and sent the case back to the commission. The commission approved the rate structure for a second time under a formula defined by the court and came up with the same increase.

Florida

Agree to Reduce Rates

DIRECTORS of Florida Power & Light Company recently approved the management's recommendation that the company cut its rates to comply with a proposal of the state railroad and public utilities commission staff. The rate cuts will reduce the utility company's income by about $4,725,000 yearly, based on the amount of power sold in the year just ended.

The commission in mid-June ordered a rate reduction for the utility because the commission said the company was earning more than 6.5 per cent on the value of its investment, the rate considered fair by the commission.

The Florida Power & Light board of directors announced no action on the commission staff report that the company was valuing its properties too high. Earlier, a company spokesman said the utility plans to protest the staff valuation of its property at $302,404,378, or $32,466,000

lower than the company's evaluation.

The state commission subsequently set lower rates for Florida Power & Light, giving the utility's 600,000 customers cuts ranging from 2 per cent up to 20 per cent on their electric bills. The biggest reductions will go to customers in rural areas and small towns.

Under the new rate schedules, the company will earn about 6.98 per cent on that part of its investment actually being used to produce electricity.

Michigan

Additional Gas Heating Proposed

CONSUMERS POWER COMPANY last month asked the state public service commission to approve the connection of 20,000 additional gas space-heating customers in the state. Consumers supplies gas service to 286 cities and villages and townships in 29 Michigan counties, including Lansing, and has about 180,000 unfilled applications for gas space-heating service.

Company President Dan E. Karn said the petition was based on an agreement for purchase by Consumers of the gas wells in the Overisel gas field in Allegan county. It includes 38 producing wells owned by the Taggert Company of Big Rapids. Actual transfer of ownership is expected within the next few months, Karn said.

Missouri

End of Weekly Bus Passes Permitted

THE St. Louis Public Service Company was authorized last month by the state public service commission to eliminate its weekly bus and streetcar passes, as requested by the transit company, effective August 25th.

The company estimated it would gain $705,000 a year in increased fares and decreased operating expenses through elimination of the passes. It contended this was necessary to offset increased operating costs of about $900,000 a year, resulting from a new two-year labor contract signed by the company.

The state commission authorized the firm to abandon its regular weekly pass costing 90 cents, and its express service pass costing $1.15. Holders of either pass had to pay an additional 10 cents a ride. The $1 weekly student pass will remain in effect.

Montana

Asks Power Rate Increase

AN application for permission to increase its electric rates by 12 to 19 per cent was filed by the Montana Power Company with the state public service commission last month.

Marking the first such request by the 45-year-old company, the application asked adjustments in rate schedules for residential, commercial, and industrial customers; housing authorities and street-lighting projects.

The company estimated the proposed increases would net an additional $1.8 million in 1958.

Oregon

Governor Hits Snake Dams

GOVERNOR Robert D. Holmes formally entered the government *versus* private power fight recently when he "requested State Engineer Lewis A. Stanley to refer all Snake river applications for power projects to the state water resources board.

Governor Holmes called attention to the state law relating to utilization of water resources in the state. He emphasized that the state water law establishes the following principles for the development of the water resources program:

> It is in the public interest that integration and co-ordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof for the benefit of the state as a whole.
>
> Multipurpose impounding is to be preferred over single-purpose structures. Upstream compoundments are to be preferred over downstream impoundments.
>
> Competitive exploitation of water resources of this state for single-purpose uses is to be discouraged when other feasible uses are in the general public interest.
>
> Watershed development policies shall be favored, wherever possible, for the preservation of balanced multiple uses, and project construction and planning with these ends in view shall be encouraged.
>
> It is of paramount importance in all co-operative programs that the principle of the sovereignty of this state over all the waters within the state be protected and preserved, and such co-operation by the board shall be designed so as to reinforce and strengthen state control.

Governor Holmes emphasized in his letter that an application of the Idaho Power Company for a state license to construct three dams in the middle Snake river is pending before the state water resources board. Another application, he said, by the Pacific Northwest Power Company for permission to construct other dams in the Snake river is pending before the state hydroelectric commission.

Pennsylvania

Seeks to Reduce Rates

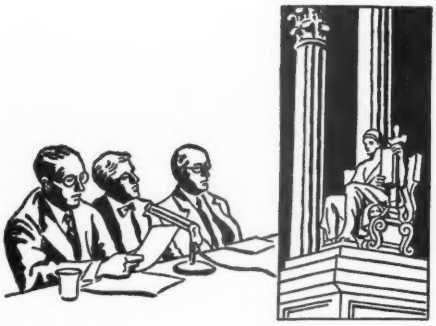
THE Duquesne Light Company recently proposed a rate change October 21st that would reduce bills of 1,000 electric service customers by $43,700 a year.

Those to benefit under the revision filed with the state public utility commission are general household and farm consumers whose rates are based on a demand for more than five kilowatts of energy. Such consumers use appliances, including a water heater and range.

Wisconsin

Governor Signs Bill

GOVERNOR Thomson last month signed into state law a legislative bill to forbid the state public service commission from approving a request by an electric or telephone utility to abandon a right of way without requiring the utility to remove all poles at ground level and remove any other structures extending over three feet above the ground.



Progress of Regulation

Trends and Topics

Limitations on the Redemption of Senior Securities

UTILITY companies, given the opportunity, might well make profitable use of redemption limitations in their offerings of senior securities. A noncall or call premium provision against redeeming with lower cost funds is a valuable feature for which bond and preferred stock purchasers are normally willing to pay. It tends to reduce the immediate cost of capital. But whether the price that can be obtained for the provision will justify the risk of losing a later opportunity to refinance at lower cost depends, of course, upon future market conditions. Should utility management have the right to offer redemption limitations, according as its judgment might dictate, in bargaining for capital?

The regulatory authorities generally do not allow noncall provisions and they permit only "reasonable" call premiums. Looking to the public interest, they base their position on the proposition that lower over-all capital cost, and hence lower rates, can be achieved without such limitations than with them. Apparent exceptions, however, are sometimes allowed under the general rule when particular facts and circumstances are shown.

Federal Power Commission Pronouncements

The Federal Power Commission denied a very recent application by Puget Sound Power & Light Company for permission to attach a 5-year, noncall provision to a bond issue (case reviewed in PUBLIC UTILITIES FORTNIGHTLY, August 29, 1957, page 347). The proposed limitation was held to be contrary to the purposes of the Federal Power Act.

The company based its request upon a contention that present market conditions would afford a lower interest cost for new issues of long-term debt with a noncall feature than for issues without such a provision. It was also contended that the call limitation would materially enhance the marketability of the company's issue.

Any conclusion that the noncall feature will result in a substantial interest saving to the company must involve an evaluation of future market conditions

for a minimum period of five years, the commission observed. In any event, the company must pay the currently prevailing "hire" of money. The commission's experience has not shown a material difference in the cost of money, on a current basis, for comparable security issues with a limitation on the right of redemption and for issues without. In the case of a regulated industry, said the commission, it is in the public interest that the hire of debt capital be stated in such a manner as to allow the debtor to take advantage of any future fortuitous market conditions which might afford a lower cost of money.

On the other hand, at about the same time, the commission authorized a 30-year bond issue by the Black Hills Power & Light Company which contained a provision fixing a redemption rate of approximately 110 per cent during an initial 5-year period (case reviewed in PUBLIC UTILITIES FORTNIGHTLY, August 29, 1957, page 346). The commission recognized that the premium substantially restricted the right to redeem. Nevertheless, the company was in immediate need of funds, and the additional expense of renegotiating the sale would not have been warranted in view of the relatively small amount of the issue and the contract price obtained. It was made clear, however, that in future cases the commission will not look with favor upon a restriction which directly or indirectly limits the right of a utility to refund bonds at a lower interest rate or which otherwise unreasonably limits the right of redemption.

The Position of the Securities and Exchange Commission

The policy of the Public Utility Holding Company Act of 1935 as set forth in § 1 proscribes "lack of economies in the raising of capital" as one of the evils against which the act is directed. The Securities and Exchange Commission regards noncall provisions as a potential lack of economy. "We look with strong disfavor upon the issuance of nonredeemable senior securities," said the commission (3 PUR3d 231). Its policy against the nonredeemable feature embraces as well a redemption premium so high as to make redemption unlikely as a practical matter. It recognizes, however, that circumstances sometimes call for a variation from the general policy in the interests of investors, consumers, and the public.

The commission approved a 3-year noncall provision in an issue of preferred stock (3 PUR3d 231). Special circumstances were cited as warranting approval. A desirable refinancing of the stock during the 3-year period was so remote that it could not conceivably be said to outweigh the benefit to the company in selling the stock at that time on the negotiated terms which had been accepted by the prospective purchasers. The commission served notice, however, that nonredeemable features in senior securities, even though the period of nonredeemability is as short as three years, should not be resorted to as a means of reducing the cost of money. All reasonable efforts must be exerted in the future to keep this undesirable feature out of financing programs, the commission indicated.

Later, the commission authorized a natural gas pipeline company to issue

bonds to finance a construction program, though an initial redemption price of 115 extending over a 5-year period was attached (11 PUR3d 62). To have imposed a condition requiring reduction of the redemption premium would have created an uncertainty in the bond interest rate and delayed needed construction. This, it was believed, would have been detrimental to the interests of both investors and consumers.

A normal redemption premium, the commission observed, is designed to protect the yield basis on which the securities are initially issued and sold. At the same time it gives the issuing company the opportunity to take advantage of market conditions which from time to time make possible refunding of senior securities at substantial savings in interest costs. These savings, said the commission, have been considered a proper method of securing economies in the raising of capital, as provided in the Holding Company Act. Particular benefits to issuers have flowed from the policy of full redeemability at reasonable premiums when securities have been issued to finance necessary expansion during periods of rising or relatively high money rates, it was noted.

State Views against Undue Restrictions

The Georgia commission says a reasonable premium on a bond issue is appropriate when the bonds are called in advance of maturity (12 PUR3d 503). But the premium ordinarily should not exceed the amount of interest for a year in advance. It should decline over the life of the issue and should not be affected by the purpose for which the bonds are called.

The commission ruled that any restrictions on the calling of bonds when a lower rate of interest can be obtained is contrary to the public interest. Cost of capital, it was reasoned, is a significant factor in the determination of the rate of return. Since return is an element of the over-all cost of service, it affects the level of rates. There should be no arbitrary restrictions to prevent refunding at a lower interest rate, said the commission, unless conclusive evidence is produced that such restrictions are in fact in the public interest.

Decisions of the New York commission indicate that call premiums for senior securities should not ordinarily exceed three points (74 PUR NS 424; 73 PUR NS 266; 67 PUR NS 321). Although the Arkansas commission does not oppose a reasonable call premium, it has held that a mortgage agreement which provided for an initial premium of 4 per cent was too severe (14 PUR3d 295).

In 1939 when bond interest rates were low, the Tennessee commission authorized an operating telephone company to increase from 4 to 10 per cent the call premium on its bonds held by a parent company (32 PUR NS 77). The subsidiary insisted that advantageous refinancing was very improbable. But the call price appeared to be a material consideration to insurance companies which were interested in the issue. The call price is equally material to the public, the commission observed, and the public is at all times entitled to know that utility financing is being conducted at the lowest possible cost. The commission concluded, however, that adequate consideration was given

for the 10 per cent premium in that the holder of the bonds agreed to pass on to the issuer any increase in value occasioned by the proposed change in the contract.

Views from Another Angle

The New Jersey commission held that a 5-year noncall provision in bonds and preferred stock was reasonable and in the public interest (2 PUR3d 58). It was remarked that the holders were thus protected against any effectual reduction of the interest rate during the first five years. No further discussion was offered.

The Massachusetts commission approved a bond issue with a call premium to be initially set at between 3 and 4 per cent (36 PUR NS 224). Said the commission: "Objectively considered, we think this provision for call premium will result beneficially to the company as it gives assurance of the best possible price at the time of sale. Conversely, there is a distinct benefit to the purchaser by the secured advantage of a net rate of yield which will be at least equal to the basis upon which he made the original purchase, irrespective of the date on which the bonds may be called. We further apprehend that there can be no public objection to a provision which secures to the company the lowest possible interest rate and leaves the matter of electing to call solely within the company's discretion."

Review of Current Cases

Southern Bell Wins Affirmance of Judgment Declaring Tennessee Rates Confiscatory

SOUTHERN BELL TELEPHONE & TELEGRAPH COMPANY has won a decision from the Tennessee supreme court affirming a chancery court judgment (17 PUR3d 311) declaring confiscatory and unconstitutional the rates prescribed by the Tennessee commission in January, 1956 (12 PUR3d 170). The lower court based its decision on evidence, which it required to be taken on remand to the commission, relating to a four months' period of operations under the challenged rates.

The rates originally filed by the company in 1954 were designed to produce nearly $10 million in additional gross revenues. The commission authorized slightly less than $3 million of this sum. On appeal to the lower court, the company won the right to put its originally filed rates into effect after giving a refund bond. Under the instant decision, these rates remain in effect, and the bond is discharged.

Operating Data Protested

The commission strenuously contested the chancery court's power to order the taking of proof on the operating results. At first it would have nothing to do with such evidence on the ground that it was beyond the scope of the statute providing for a remand to the commission. Upon citation for contempt, however, it filed the evidence required.

This hearing, said the supreme court, came under the original jurisdiction of the chancery court since facts had been al-

leged which, if proved, would amount to unconstitutional confiscation. In these circumstances, the court had discretionary power to require the taking of proof on the company's operating results under the rate order, and such proof was relevant and competent in determining the constitutional issue.

Return Inadequate

This evidence, which was not contradicted, indicated that the company's actual return on its net average investment was only 4.01 per cent. The commission, on the other hand, had approved 6.1 per cent as a reasonable and just rate of return. The deficiency, it was said, resulted from the commission's failure to take account of a 1955 wage increase, additions to plant prior to the order, a 1955 increase in taxes, and a 1955 increase in depreciation expense.

The mere fact, however, that the authorized rates would not yield 6.1 per cent would not necessarily mean that they were confiscatory. Confiscation depends on whether the return that is being realized is just and reasonable under the proven circumstances. A utility is entitled to rates which will permit it to earn a return on its property equal to that generally being earned at the same time in the same part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties, it was observed. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility.

The reasonableness of the prescribed rates depended not only on their production of a reasonable return at the particular time they were established but also on their adequacy to provide such return for a reasonable time in the immediate future.

In fixing rates, the commission must necessarily, within reason, fix a certain definite period on which to establish the rate base. But in considering this period it should also consider the experience of the past and fix the rates with reference to what may happen in the future. If a few months' operation under new rates indicates that such rates are so erroneous as to result in a return substantially below that authorized as reasonable, said the court, there is no reason why the commission should not adjust the rates to provide a fair return, even if it must thereby undertake a new hearing.

The prescribed rates, according to the uncontradicted proof, did not produce the minimum return, either on equity capital or on the rate base, found necessary by the commission. Thus the lower court's holding that the rates were confiscatory was amply supported by the operating data in that the realized return was not sufficient to meet the requirements as laid down by the United States Supreme Court in the Hope Natural Gas Company case (51 PUR NS 193):

"From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. (Citing authorities.) . . . That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital."

Company Rates Effective

In Tennessee a utility still has the power to fix its own intrastate rates as it did at common law, except that rates so fixed are subject to suspension by the commission until it determines what is a reasonable return for the utility. The court noted that since the rates prescribed by the com-

mission were unconstitutional, the lawful rates become those fixed by the company at the time it filed them with the commission. Those rates will therefore remain in effect until the commission sees fit to conduct a new hearing. *Southern Bell Teleph. & Teleg. Co. v. Tennessee Pub. Service Commission, July 29, 1957.*

Rate Increase Based on Investment and Depreciation Rate Approved

THE Wyoming commission, in authorizing a natural gas company to increase rates so as to produce a return of 4.85 per cent on a net investment rate base, found the company's method of accruing depreciation by the straight-line basis of 3 per cent per year fair to both the company and its patrons.

The net investment rate base was described by the commission as consisting of the company's investment in plant (original cost) devoted to utility service, less book depreciation reserves, plus a reasonable allowance for materials and supplies and cash working capital. The commission thought such a rate base was fair to both patrons and investors. It is practical and easily understood, said the commission, and is used by other regulatory bodies, not otherwise bound by statute. Finally, it has been approved by decisions of the courts.

An allowance for cash working capital was approved in an amount sufficient to cover a 45-day period. The amount approved was a sum equal to one-eighth of annual operating expenses less taxes, interest, and depreciation expense. *Re Northern Utilities Co. Docket No. 9146, Sub 2, July 12, 1957.*

Comparisons Rejected as Argument for High Return

THE Connecticut commission approved a rate increase for a water company sufficient to afford a rate of return of 5.24 per cent on a net investment rate base. The company had asked for a 50 per cent increase in rates, which would amount to a 6.15 per cent return. The latter return was held to be excessive.

Protestants asked the commission to reduce the rate of return by reflecting the tax-free nature of certain dividends received by the corporate owner of all of the common stock. The commission did not find this request persuasive. In fixing rates the commission is required to follow the statutory standard, which prescribes rates that are ". . . just, reasonable, and adequate to enable such company to provide properly for the public convenience, necessity, and welfare. . . ." The identity of the owner of a security of a public utility is not a factor for consideration in the application of this statutory standard, said the commission.

Comparative Returns

In support of its request for a 6.15 per cent return, the company pointed to former findings of the commission in which the numerical rate of return compared favorably with that requested in this proceeding. Although this comparative consideration was stressed, the company advanced no evidence to show that similar elements of supply, service, area served, manner of operation, and other factors were present in both the instant case and in those cited for comparison.

It is not sound regulatory practice, said the commission, to determine rate of re-

turn on the basis of comparability. Efficient regulation requires that each case be judged on its merits, and the determination should be predicated on existing facts rather than on a comparison. Comparisons should be merely incidental and informative. It was noted that the authorized return would be more than adequate to enable the company to meet its obligations, preserve its financial integrity, and attract capital when needed.

Rate Base Changes

Several rate base modifications were made. Advances by customers for construction were excluded from the rate base since it would be inequitable to make ratepayers provide funds for plant construction and also pay a return on such funds. A proposed 60-day working capital allowance was reduced to an allowance of forty-five days. *Re Mystic Valley Water Co. Docket No. 9473, August 15, 1957.*

Emergency Rates Granted to Cover Increased Gas Cost On Showing As to Rate of Return

CHEYENNE LIGHT, FUEL & POWER COMPANY made a sufficient showing before the Wyoming commission, principally on proof of rate of return, to warrant emergency rate relief to cover the amount of an increase in the cost of purchased natural gas. The company sought merely to pass on to its customers the increased supply cost, alleging that it could not absorb the additional cost and still earn a reasonable return.

For 1956 the company, a multiple service utility, earned an over-all rate of return of 7.09 per cent on a net investment rate base. After *pro forma* adjustments for known changes affecting operating results, the earnings would amount to 5.84 per cent. The gas department earned a return of 4.90 per cent, reduced to 3.21 per cent after *pro forma* adjustments. It further appeared that the effect of an increase in the Btu content of purchased gas was to reduce the company's revenues and earnings. No reimbursement was sought for this loss.

The commission was of the opinion that the company had made a *prima facie* showing that neither it as a whole, nor its gas department as a separate unit, could absorb any portion of the increased supply cost.

The emergency rates requested were therefore granted. However, since the supply cost increase was being charged subject to refund pending the outcome of proceedings before the Federal Power Commission, the Wyoming commission directed the company to allocate proportionately among its customers any refund that might later be received from the supplier. *Re Cheyenne Light, Fuel & Power Co. Docket No. 9248, Sub 3, July 23, 1957.*

Federally Licensed Snake River Dam Not Subject To State Veto

THE Oregon supreme court ruled in favor of the Idaho Power Company upon prosecution of the company by the state of Oregon for undertaking construction of a dam across the Snake river, pursuant to a federal license, without first obtaining a license from the state. The court affirmed a judgment which sustained a demurrer to an indictment. The facilities in question are on the Brownlee site and are a part of the Brownlee, Oxbow, and Hell's Canyon development author-

ized by the Federal Power Commission.

The federal commission's license and order stated that the company had submitted satisfactory evidence of compilance with the requirements of all applicable state laws in so far as necessary to effect the purposes of a license. An Oregon statute provides for state licensing of water power projects which will involve the appropriation of waters within the state or waters over which the state has concurrent jurisdiction. The Snake river at the point in question is a navigable waterway of the United States and forms the boundary between the states of Idaho and Oregon.

Oregon contended that the use of the water rights is within the control of the state and not within the licensing authority of the Federal Power Commission. This contention was based on the savings provisions of the Federal Power Act, §§ 9(b) and 27. The former provides for submission to the federal authority of satisfactory evidence of compliance with state laws. The latter recognizes state laws relating to the control of the use of waters in which the states have vested rights.

Federal License Power Is Paramount

Upon first impression, the court said, it would appear that § 9(b) requires compliance with any state regulatory measure prior to the issuance of a federal license. It indicated, however, that the United States Supreme Court dispelled any such impression in its decision in the First Iowa Hydro-Electric Co-operative case (63 PUR NS 193) where it was said:

> A dual final authority, with a duplicate system of state permits and federal licenses required for each project, would be unworkable. . . . Section 9(c) permits the commission to secure from the applicant "Such additional information as the commission may require." This enables it to secure, *in so far as it deems it material,* such parts or all of the information that the respective states may have prescribed in state statutes as a basis for state action.

Neither § 9(b) nor § 27 grants to the states the power to veto a license granted by the federal government to construct a dam across a navigable stream, the Oregon supreme court declared. Laws passed by a state, even in the exercise of its acknowledged powers, must yield to federal constitutional powers and laws passed pursuant thereto. *Oregon v. Idaho Power Co. 312 P2d 583.*

Restrictions Placed in Electric Certificate to Obviate Future Controversy

THE California commission, in granting a certificate of public convenience and necessity to an electric company to exercise franchise rights in San Bernardino county, was of the opinion that the placing of restrictions in the certificate was appropriate in order to obviate future controversy concerning territory. Another electric company was presently serving parts of the county.

Relations between the two electric companies were not as amicable as they had been many years previous. Existing controversy in another county between the two companies could have been forestalled by appropriate restrictions such as the ones inserted in the certificate granted.

It was clear that there was some overlapping of facilities in service of the two companies. Until presently, the companies had avoided conflict but recent developments had stirred competitive practices.

The commission did not intend to permit needless and destructive competition to develop to a point where the public might suffer.

The certificate was granted subject to the condition that the applicant not exercise franchise rights within those parts or portions of the county presently being served by any other electric company. The commission also reserved the right to limit the authority granted to the applicant as to any territory within the county not then being served by the company. *Re California Electric Power Co. Decision No. 55271, Application No. 38676, July 15, 1957.*

State Commission Lacks Jurisdiction over Condemnation Involving Water of Navigable Stream

In construing a contract between an electric company and property owners, the United States district court held that the Vermont commission was without jurisdiction to hear and determine a petition for condemnation of property on which an electric company maintained penstocks carrying water of a navigable stream. The utility was not a licensee of the Federal Power Commission when it filed the condemnation petition.

The contract provided for the purchase of property by the electric company, if it had not previously exercised an option to buy, upon termination of the lease at a price to be agreed upon between the parties. If no price had been agreed upon, then the company was to institute condemnation proceedings within six months after the lease's termination. If condemnation proceedings had not been instituted within that time, it was to pay $300,000 for the property. The court held that the lessee was obligated to purchase the property for $300,000 since it had failed to initiate condemnation proceedings before the proper tribunal within six months.

Effect of Federal Power Act

The electric company had contended that in any suit where violations of the Federal Power Act were involved, and compliance with the act was sought, the proceedings had to be brought exclusively before the Federal Power Commission. As a statement of law, the court agreed the proposition was valid. However, it was not applicable to the case.

The action involved a suit on a contract, pointed out the court, for specific performance of a land purchase agreement. It was not a proceeding to compel compliance with the Federal Power Act. As an incidental question, the suit involved the interpretation of the Federal Power Act, and the court had jurisdiction to adjudicate such incidental questions.

There is nothing in the Federal Power Act, said the court, which denies federal courts jurisdiction to entertain suits which may incidentally involve interpretation of the act. Were such the case, and were the court to hold as the company urged, the rendering of a final decision in a dispute such as this would be slowed to a snail's pace. The Federal Power Act does not grant the Federal Power Commission the exclusive right to determine the fact of navigability or nonnavigability.

The crux of the case hinged upon the question of whether the Vermont commission had jurisdiction to entertain the condemnation petition. Where the federal government supersedes the state government, said the court, there is no thought that the two agencies shall each have final authority.

The Federal Power Act gives the fed-

eral government exclusive jurisdiction to issue licenses for construction of dams, conduits, etc., in any stream over which Congress has jurisdiction. The act leaves to the states permission to construct such projects upon compliance with state laws provided the projects are not in navigable waters of the United States, do not affect the interests of interstate or foreign commerce, and do not affect the public lands or reservations of the United States.

A dual final authority, said the court, with a duplicate system of state permits and federal licenses required for each project, would make for chaos. It would be an impossible and completely unworkable situation.

Congress did not intend to create such a situation. The Federal Power Act was meant to give the Federal Power Commission exclusive jurisdiction over all matters affecting a navigable stream. The fact of navigability, once determined in the affirmative, gives the Federal Power Commission exclusive jurisdiction over all matters affecting the stream.

It followed that since the company was maintaining penstocks carrying water of a navigable stream across property it was seeking to condemn, and since it was not a licensee of the Federal Power Commission when it filed its petition with the Vermont commission, the state commission was without jurisdiction to hear and determine the petition. Since, under the contract, the company had not instituted condemnation proceedings before any tribunal having jurisdiction for the purpose of acquiring the property, it was obligated to purchase the property for $300,000. *Prouty et al. v. Citizens Utilities Co. 150 F Supp 892.*

Tax Effect of Accelerated Depreciation Included in Depreciation Expense

DEPRECIATION expense of the LaCrosse Telephone Corporation may properly include the tax effect of accelerated depreciation under § 167 of the Internal Revenue Code of 1954, for rate-making as well as accounting purposes, the Wisconsin commission ruled. The company was authorized to compute depreciation expense as the sum of the regularly certified depreciation expense plus an amount of additional depreciation equal to the product of the federal income tax rate times the difference between the annual amount of depreciation taken under the accelerated method and the annual amount computed at the certified rates.

Over a period of about two years in which the company took accelerated depreciation, it had enjoyed a tax saving or deferral which was recorded under an accrued taxes account.

The state public service commission approved the transfer of this item to appropriate subdivisions of the company's depreciation reserve. *Re La Crosse Teleph. Corp. 2-U-4202, July 23, 1957.*

Telephone Company's Refusal to Install Concentrator-Identifier Equipment Not Discriminatory

THE California commission held that a telephone company's refusal to furnish a telephone-answering business with a business-answering line service, either by direct line or by concentrator-identifier equipment, did not constitute unreasonable discrimination. The allegation of discrimination had been advanced on the

ground that the telephone company had provided business-answering line service from one central office to an answering service located in another central office area of a district in other cases.

No evidence had been introduced to indicate that such service was being provided in other districts, answered the commission, for reasons other than economical development of plant or establishment of service at an earlier date than would have otherwise been possible. The filed tariff gave the company the right to provide such service where economic conditions warranted. The complainant had failed to show that the company could economically provide business-answering line service in the central office requested. In fact, the record clearly showed that unnecessary use of critically short interoffice trunks would be required for such service.

In order to provide efficient and economical service in a multioffice exchange, pointed out the commission, it is fundamental that the utility have a basic engineering plant which contemplates that each central office will normally provide exchange service to the stations located within a given central office area. During transition periods when essential plant rearrangements are being made or when a given central office is filled to capacity, it may be necessary for some stations in one central office area to be served from another central office for reasons of economical plant growth or for purposes of providing service at an earlier date. Since the complainant had not shown any other reason for the service provided in other cases, the charge of discrimination could not stand. *McCormick (Proxy Teleph. Service Co.) v. Pacific Teleph. & Teleg. Co. Decision No. 55209, Case Nos. 5886, 5888, July 2, 1957.*

Construction Program Figures in Rate Increase

UNDER a heavy construction and expansion program, the Concord Telephone Company's rate of return fell to about 3½ per cent on a net investment rate base.

This was inadequate to meet capital servicing costs. Noting that such a return is below the bounds of reasonableness, the North Carolina commission authorized additional revenues sufficient to afford a 6 per cent return. A 6.66 per cent return requested by the company, however, was denied as excessive.

In discussing the new rates, the commission commented that rate making requires judgment based on the facts and circumstances surrounding each individual utility; it is not an exact mathematical science. Rates may properly vary according to the particular circumstances.

Besides the rate issue, the commission authorized the company to incorporate contiguous built-up areas into the base rate areas at its exchanges. This was found to be necessary in the interest of fairness and in conformity with the company's tariffs. *Re Concord Teleph. Co. Docket No. P-16, Sub 26, August 7, 1957.*

Parent and Subsidiary Lack Standing to Appeal TV Construction Permit Extension

THE United States court of appeals held that a Federal Communications Commission order approving the "involuntary" transfer of control of a corporation, which held a construction permit for a television station, to the administratrix of the estate of one of the principal stockholders was not improper. The

transfer was considered merely a temporary arrangement not involving the ultimate disposition or control of the stock of the permittee.

Ruling upon the standing of a parent and subsidiary to appeal from the commission's extension of a construction permit, the court held that neither the parent nor the subsidiary was properly before the court.

Section 402(b) of the Federal Communications Act gives the right of appeal to any person who is aggrieved or whose interests are adversely affected by an FCC order granting or denying any application for a construction permit. The derivative interest which a parent company has in its wholly owned subsidiary's injury by the extension of a construction permit was not sufficient to entitle the parent to maintain an appeal under § 402(b).

The subsidiary's appeal was dismissed because it had not sought a rehearing as a statutory condition precedent to invoking the jurisdiction of the appellate court. The operator of the television station had not sought to become a party to the proceeding before the FCC. *Southwestern Publishing Co. v. Federal Communications Commission, 243 F2d 829.*

Gas Supply Cost Refund Prescribed

THE Missouri commission approved the distribution of a gas supply cost refund by the Carl Junction Gas Company and prescribed a method of computing the amount due each consumer. The company was directed to determine the total Mcf of gas billed to each customer during the period of excessive collections, divide the total of such billings into the amount to be refunded, and apply the factor thereby developed to each customer's consumption during the refund period. *Re Carl Junction Gas Co. Case No. 13,740, July 29, 1957.*

FPC Approves Electric Bond Issue

THE Federal Power Commission authorized the Northern States Power Company to issue $18 million of 30-year, first mortgage bonds at competitive bidding under § 204 of the Federal Power Act. By an earlier order the commission denied permission to include a five-year, nonrefundable provision.

The proceeds of the issue will be devoted chiefly to construction costs. A part, however, will be used to pay short-term bank loans, and debts of a hydroelectric company, whose properties the applicant proposes to purchase, will be paid. *Re Northern States Power Co. Docket No. E-6763, July 31, 1957.*

Natural Gas Contracts Construed

IN an action by a distributor against a pipeline company on contracts for sale by the company of natural gas to the distributor, the Montana supreme court held that, under the contracts, the company was required to furnish gas which would aggregate 50 per cent of the distributor's annual requirements.

A letter that had been written by the pipeline company to the distributor to the effect that the company believed it would not be able to meet the distributor's maximum daily requirements, held the court, showed conditions justifying resort to a clause restricting the company's obligation to supply only 50 per cent of the distribu-

tor's requirements and obligating the distributor to purchase only 50 per cent of its requirements from the company.

The contracts obligated the pipeline company to sell, and the distributor to buy, from a certain field, all of the distributor's needs for the sale and distribution of natural gas in three cities. The court construed the contracts as requiring the company to furnish all gas needed by the distributor in one city, notwithstanding a provision that, if the company's gas supply became depleted, the distributor should thereafter purchase from the company 50 per cent of the distributor's annual requirements for that city and two other cities.

Since the pipeline company was required to furnish 100 per cent of the natural gas requirements of the distributor in another city at all times, and since the company's gas supply became depleted, and the company was authorized to supply 50 per cent of the distributor's annual requirements, the court held that the company was required to deliver to the distributor at two of the cities sufficient gas so that its purchase of gas at these two cities, when added to the gas furnished for the first city, would aggregate 50 per cent of the distributor's annual requirements.

The lower court had properly required the company to supply the second city with 100 per cent of its requirements and to supply the third city only sufficient gas to make the aggregate of 50 per cent of the distributor's requirements in the three cities. The distributor, thereby, would not have to incur the expense of constructing a pipeline from the third city to the second city. *Montana-Dakota Utilities Co. v. Montana Gas Corp. 312 P2d 521.*

Small Customers Share in Distribution of Gas Cost Refund

REFUND payments by a gas company to its customers should be proportional to each customer's usage in the refund period during which he paid excess charges, the Michigan commission ruled. A plan was authorized for refund of moneys received by company from supplier.

It was proposed that the amount of gas relating to customers whose aggregate usage would not produce a refund of 50 cents or more should be deducted from the total quantity of gas for which refunds would be calculated and that the remainder be used as a basis for distribution of the refunds. The company also requested that the cost of the refund be charged against the customers' claims.

Rejecting these proposals, the commission indicated that all who contributed to the payment of excess charges to the supplier should share in the refunds. Nor would the commission permit any further charges to the customers for the cost of the refund since they had already paid more than half of the cost of a larger, inclusive refund program. *Re Michigan Consolidated Gas Co. D-3430-57.4, August 5, 1957.*

Special Transit Service and High Zone Fare Found Discriminatory

UPON the discontinuance of an unprofitable direct transit service to an industrial plant following the withdrawal of an industrial subsidy, a number of patrons asked the Missouri commission to order the company to re-establish the service.

Since the run, if again provided, would entail a considerable loss, the commission ruled that it would be discriminatory against other riders who would have to subsidize the loss by paying higher rates. A substitute service then being provided was in effect approved, though it was concededly less convenient for this group of patrons.

However, a 10-cent fare charged in connection with the substitute service was found to be discriminatory. All other zone fares under the company's rate schedules were only 5 cents. All zone fares should be the same, said the commission, as it would be discriminatory to charge different fares over different lines. A contention by the company that all zone fares ought to be 10 cents was held to be no justification for the discriminatory charge. *Re Kansas City Public Service Co. Case No. 13,624, August 1, 1957.*

Discrimination in Refusal to Extend Water Service

THE Wisconsin commission ordered a municipal water plant to extend service to a complainant whose property was located within an area presently served by the city and adjacent to city water mains. The amount of water to be used would not tax the facilities of the water department.

The commission declared that refusal to serve the property would be discriminatory and inconsistent with reasonable development of water service where the city served premises on all sides of complainant's property, yet did not furnish water to complainant. *Re City of Milwaukee, 2-U-4787, August 1, 1957.*

Increased Intrastate Freight Rates on Coal Justified by Financial Emergency

THE Indiana commission approved the applications of a number of railroads for increased intrastate freight rates for coal. Increased wages and operating conditions had created a financial emergency which the commission recognized as producing an urgent necessity for additional revenues.

It was contended that the railroads had not met the burden of proof required by statute because they had failed to produce any evidence in terms of dollars and cents of the cost of moving coal intrastate. While the Indiana statutes impose the burden of proof upon proponents of increased rates, the commission said, the statutes do not provide in detail the nature of proof that must be submitted. The increase could be justified without intrastate cost evidence. Precise dollars and cents costs could not be readily ascertained.

Even if the present rate was fair and reasonable when adopted, the commission continued, under present conditions, the railroads could not long continue to furnish reasonable service. The increased costs created an emergency situation in railroad finances which would seriously impair services if relief was not forthcoming.

It had been contended that the increase should not be allowed for purely economic reasons. The commission, in exercising jurisdiction over freight rates, it was pointed out, owes a duty to the public, railroads, and shippers. It would not permit an economic condition, over which it had no jurisdiction, to control freight rates. The commission's action had to be governed for the general good of the public. *Re Indiana Coal Traffic Asso. No. 27046, June 21, 1957.*

Lifting of Certificate Restrictions Tantamount to Granting of New Certificate

THE West Virginia supreme court of appeals reversed a commission order which had lifted restrictions from the operating certificates of a bus company. Two bus lines had been certificated to operate between two cities, over partly different routes. One operated freely in, and between, the two cities, and the other restricted itself to transporting only those passengers whose point of origin or destination lay on its exclusive route. This prohibited the transfer of through passengers from one city to the other.

An application to remove such restriction and permit the transfer of through passengers from one city to another, held the court, is tantamount to and identical with the granting of the same privilege to a new applicant to engage in direct competition with an existing carrier. An incident to regulation of a public monopoly is protection of a certificate holder against unnecessary duplication or competition.

No additional certificate may be granted, held the court, unless the service furnished under the first certificate is found by the commission to be inadequate or insufficient. The holder of the first certificate must be given an opportunity to remedy service within a reasonable time after such a finding. The order, since it was based upon findings not supported by the evidence, was reversed and remanded to the commission. *Charleston Transit Co. v. West Virginia Pub. Service Commission, 98 SE2d 437.*

Other Recent Rulings

Water-heating Rate Increase. The Wisconsin commission ruled that a rate increase of one-fourth cent per kilowatt-hour used for water-heating purposes by a municipal electric plant was justified where the company was discontinuing off-peak controlled water-heating service and inaugurating unrestricted 24-hour service. *Re City of Two Rivers, 2-U-4790, July 29, 1957.*

Municipal Gas Plant Area Restricted. A municipality was granted a certificate of public convenience and necessity by the North Carolina commission authorizing the construction, maintenance, and operation of a natural gas distribution plant to service city residents upon a showing that there was a public need for the proposed service and that the city had adequate financing, but was denied permission to extend operations beyond city environs. *Re City of Monroe, Docket No. G-23, July 15, 1957.*

Joint Rate Allowance. The Louisiana commission directed participating rail carriers in joint movements to which an intrastate railroad was a party to share on an equitable basis in the carload rate allowance made the intrastate railroad by the commission for services. *Louisiana Eastern R. Corp. v. Thompson, Trustee, et al. No. 6751, Order No. 7209, May 3, 1957; South Central Railroad v. Illinois C. R. Co. et al. No. 7099, Order No. 7210, May 3, 1957; Jackson R. & Transp. Co. v. Illinois C. R. Co. et al. No. 7218, Order No. 7211, May 3, 1957.*

Compromise Agreement. The New York commission held that there was no legal authority to set forth, in an agree-

ment compromising a railroad's liability for both improvements and benefits stemming from grade-crossing eliminations in a certain area, the conditions of conveyances of new rights of way since only the commission had authority to determine the terms and conditions of such conveyances. *Re New York C. R. Co. Case 5937, June 25, 1957.*

Operating Convenience Route. The New York commission authorized a motor carrier to conduct specified intrastate operations over the New York State Thruway without a showing of public convenience and necessity respecting any new service, on the ground that the requested authority was analogous to an operating convenience route. *Re McBride (H.L.&F. McBride) Case MT-3419, July 15, 1957.*

Telephone Company Extension. The Illinois commission directed a telephone company to extend service to residents of an area not presently served by any telephone utility where, of all exchanges located in the vicinity, the company directed to serve could most economically extend circuits to the area. *Loyd et al. v. Illinois Bell Teleph. Co. et al. No. 44131, July 16, 1957.*

Return on Net Book Cost. The Illinois commission allowed a return of 6.1 per cent on the net book cost of a telephone company's physical property, including material and supplies and cash working capital. *Re Galva Teleph. Co. No. 44144, July 16, 1957.*

Carrier Competition Denied. The Colorado commission denied a motor carrier's proposal to extend operations where there was no showing that the service of a competitor in that area was inadequate or unsatisfactory. *Re R. B. "Dick" Wilson, Inc. Application Nos. 15540, 11540-PP, Decision No. 48392, July 22, 1957.*

Violations Cause Permit Suspension. The California commission suspended operating permits of a highway common carrier which charged rates contrary to schedule, violated safety regulations, and unlawfully leased its equipment. *Re Collier Transp. Co. Decision No. 55337, Case No. 5874, July 30, 1957.*

Interim Cease and Desist Order. The California commission, in an interim order, directed a water company to cease and desist from constructing any new water supply, transmission, or distribution facilities in a certain area pending a hearing on a complaint alleging that another water company had been certificated to serve that particular area. *Southern California Water Co. v. Dyke Water Co. Decision No. 55333, Case No. 5958, July 30, 1957.*

Unauthorized Competition. The California commission, in authorizing expansion by a water utility, disallowed a competitor's protest that it was serving the affected area where its service was unauthorized and illegal. *Re Pacific Water Co. Decision No. 55354, Application No. 39031, August 5, 1957.*

Separation of Competitor's Area. A water company's application for authority to extend its system was denied by the California commission where such extension would permanently separate a competitor's service area and where the company was financially unsound. *Re Dyke Water Co. Decision No. 55353, Application No. 37161, August 5, 1957.*

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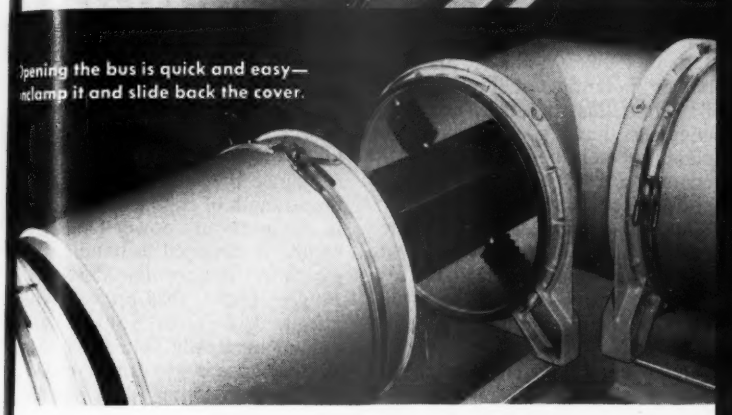

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Top horsepower only part of work-power featured by New Power Giant trucks . . .

How Chrysler Engineering Tailors Power To Job Needs

by Jim Byers

Horsepower makes headlines . . . and justly so. However, power has to be matched properly to the work requirements of a truck if its full advantages are to be realized.

Today, the most powerful trucks of the three low-priced makes are the new Dodge *Power Giants*. And Chrysler engineers are quick to point out that this top power is individually tailored to provide each *Power Giant* engine with the most desirable power reserve for the types of work that engine will have to perform.

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Take economy. The new *Power Giant* V-8 engines feature the radically different Power-Dome combustion-chamber design. This advanced design substitutes a dome-shaped combustion chamber for the old-fashioned wedge-shaped chamber. The dome has no corners or pockets where carbon can collect to rob the engine of its power. The spark plug is centrally located at the top of the dome, and larger valves, placed on opposing sides, are utilized. The result is much more efficient fuel combustion. Better still, this more complete burning of fuel produces full high-compression power on *regular gasoline*.

Testing its strength on the Chrysler proving grounds, this Dodge *Power Giant* C700 C.O.E. model, with 216-hp. engine, makes child's play out of climbing a 32% test-grade.

Dodge also makes certain that *Power Giant* owners will get the kind of continued power performance they expect, by scaling the strength of engine components to the work and power load each engine is designed to handle. For example, in normal duty, the *Power Giant* 204-hp., 314.61 cu.-in. V-8 gives you a basic engine especially suited for high performance in low-tonnage models. For medium duty in the 11,000- to 18,000-lb. G.V.W. range, the basic engine is designed with extra-rugged components, like a roller-chain camshaft drive, tri-metal connecting rod bearings and a host of similar features. For still heavier hauling, tri-metal main bearings, stellite-faced exhaust valves, and exhaust-valve seat inserts make this engine an even more durable package of power.

All six of the *Power Giant* basic engines offered this year are scaled in strength in this same manner. As a result, the truck purchaser gets the maximum work-power needed in any tonnage classification, combined with maximum operating economy and a minimum of maintenance and down-time problems.

This is the true measure of a truck engine's work-power potential. And it's a sound measure to use as a basis for investigating and comparing truck makes before you invest in additions or replacements to your present fleet.

An advertisement for DODGE TRUCKS . . . the make with The *Forward* Look

Industrial Progress

ey of Electric Utilities Shows ong Support for Live Better Electrically

CTRIC utilities across the nation accepted and are using the indus- Live Better Electrically pro- both as a selling theme and as ket-development concept.

is and other results of a com- nsive survey of 159 electric utili- representing some 40 million s—were disclosed by Robert E. n, manager of the industrywide am. He said that utility execu- were polled for their views on rogram's effectiveness and how mployed it as a residential mar- tool in their service areas.

obably the most penetrating yet made of residential sales, tising and promotional practices utility field, the survey docu- s how Live Better Electrically s in local programs and activi-

. Boian said that 154 utilities ted using the Live Better Elec- ly theme in their advertising and otion, and that 131 factored it heir sales programs. 147 electric es reported that they are featur- ive Better Electrically in their residential campaigns; of this er, 138 utilities announced their to use the program slogan in mation with the Housepower e.

4 utilities said they staged fre- t showings of Live Better Elec- ly and other electric living s to consumer groups, reaching nual audience of 39,695,000 peo-

answer to queries on dealer co- ation, 129 utilities stated they cted active coöperation pro- s with 43,864 local dealers. 1,644 ct representatives of utilities arly bring Live Better Electrical- ly ideas and point-of-sale aids to co-operating dealers.

115 utilities affirmed that they carried on active builder cöoperation programs reaching 16,225 local home builders. To do this job, 1,211 builder contact representatives are in constant touch with firms in the new home construction field.

Questioned about their programs for electrical contractors, 116 electric utilities said they have 1,276 contact men working on wiring promotions with 16,281 cooperating contractors.

Mr. Boian summarized active tie-ins with the program's recent spring push by noting that 126 utilities had strong campaigns timed to break during this peak selling period. He predicted an upsurge in local residential campaigns during the Live Better Electrically program's fall drive.

Loftus Corp. Adds Nuclear Engineering Department

THE Peter F. Loftus Corporation is intensifying its efforts to be of service to its clients in the field of nuclear engineering. To this end, the company announces the addition of a Nuclear Engineering Department to handle the various phases of nuclear work. According to Lester E. F. Wahrenburg, executive vice president, the new department is being established to enable the Corporation to furnish nuclear design and consulting engineering services to both the electrical utilities field and to non-power producing industries.

Services to clients will include preliminary design studies, preparation of reports, design of development facilities and prototypes, and design of full-scale nuclear power plants and process plants.

C. A. Benz has been appointed head of the Nuclear Engineering Department. Mr. Benz has a Master of Science degree in nuclear physics. He has spent five years in college physics instruction, five years at the Argonne National Laboratory in Chicago, and seven years in industry in the design and development of nuclear reactors and supporting facilities. His industrial affiliations have been with Sargent & Lundy in Chicago and with Blaw-Knox in Pittsburgh.

Recording & Statistical Corp. Expands Facilities

RECORDING & Statistical Corporation, New York, has expanded its Statistical Division to take in an entire floor (20,000 square feet) at 100 Sixth avenue. Executive offices, Accounting, and Printing Division, formerly at 100 Sixth avenue, will be located at 176 Broadway, New York. Both moves will be accomplished on or before September 15, 1957.

Finer Farms Reap Big Cash Harvest in CP&L Contest

WINNERS were announced by Carolina Power & Light Company recently in its fifth annual "Finer Farms" soil and water conservation contest.

Cash awards totaling $2,800 were made to 24 communities, three county boards of Soil Conservation district supervisors, and seven individual Soil Conservation district supervisors who directed the contest on the local level.

Conservation practices on more than half a million acres of farmland in nearly 100 North and South Carolina communities were judged by J. Frank Doggett, N. C. Extension conservationist, and Jesse A. Jordan, S. C. soil conservationist.

"The united and effective action of so many farmers to save their soil and water is encouraging," commented Louis V. Sutton, president of CP&L. "In spite of current emphasis on in-

(*Continued on page 26*)

dustrialization, agriculture still is essential to our economy, and the wise utilization of our soil and water is vital to the future of our farms."

Winner of a $350 top cash prize is the Chinquapin community of Jones County, N. C., where 86 farm families have undertaken a $75,000 drainage program that solves their perennial problem of flooded fields and marshy lowlands. They have integrated drainage with other soil and water conservation practices effective on Eastern Carolina farmland.

A second-place award of $250 goes to the Avery's Creek community in Buncombe County where 62 farm families established new practices and improved existing ones on 4,430 acres of cropland, pasture and forest. Conservation emphasis in Avery's Creek was on contour farming, drainage, grassland development and wild-life cover.

A third-place award of $150 goes to the Timrod community in northeastern Kershaw County, S. C., where 57 farm families excelled in tree planting, strip-cropping, crop rotation and crop residue utilization.

Cochrane Appointment

COCHRANE Corporation, Philadelphia, manufacturers of water conditioning and steam power equipment, announces the election of Joseph R. Denton as vice president, New York district sales.

Mr. Denton is a chemical engineering graduate of Georgia Institute of Technology. He was formerly associated with Calco Chemical Division of American Cyanamid Company, and thereafter spent several years in the New York office of Worthington Corporation as a sales engineer. He joined Cochrane Corporation in 1954, as manager of its New York district sales office, 261 Madison avenue, New York 16. Announcement was made by T. E. McBride, president of Cochrane.

Griscom-Russell Offers New Feedwater Heater Bulletin

A 16-page bulletin on feedwater heaters has been published by The Griscom-Russell Company, Massillon, Ohio, a subsidiary of General Precision Equipment Corporation. This informative bulletin will prove of value to designers and engi in the power and power plant fi

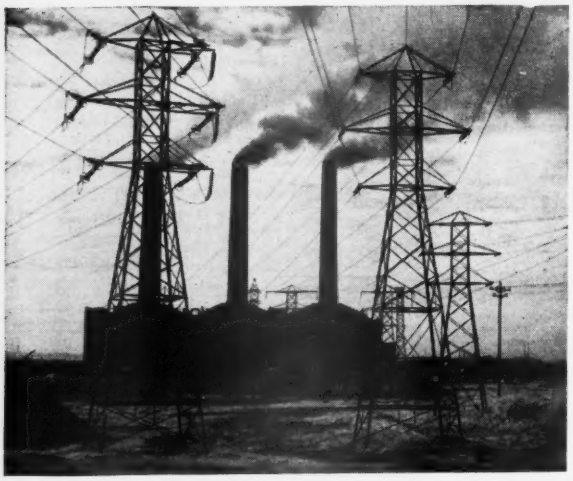
Bulletin 300 outlines the us feedwater heaters, their econo and some of the problems o de In addition, present-day trend power-plant equipment are discus Copies of bulletin 300 are availabl request to The Griscom-Rus ell C pany, Massillon, Ohio.

New Electric Heating and Cooling System

A new system for year aro nd ditioning of the air in occu premises, and that employs no nace, chimney or ducts, has just announced by Electric Hea ing Cooling, Inc., 890-898 Broad Newark 4, New Jersey.

The unique feature of this sys according to the manufactur r, is use of the patented Electric Perc Heat Pump with each unit in the tem, that circulates the hea medium during the heating sea The Electric Percojet Heat Pump no moving parts, is conseque noiseless, and highly efficient. Its

(Continued on page 28)



American Appraisals of reproduction cost may affect rates

An American Appraisal report of the cost of reproduction provides convincing evidence in the preparation of an appeal for adjusting rates to provide a more equitable return.

The AMERICAN APPRAISAL Company

Leader in Property Valuation
Home Office: Milwaukee 1, Wisconsin

More for your Money in **MORYSVILLE**

New Line Construction Body for single or dual wheel chassis from ¾ to 2 tons. Length from 8' to 14' (CA's from 48" to 120"). Sliding roof for derrick; ample stowage space inside and out. Many plus features at no extra cost.

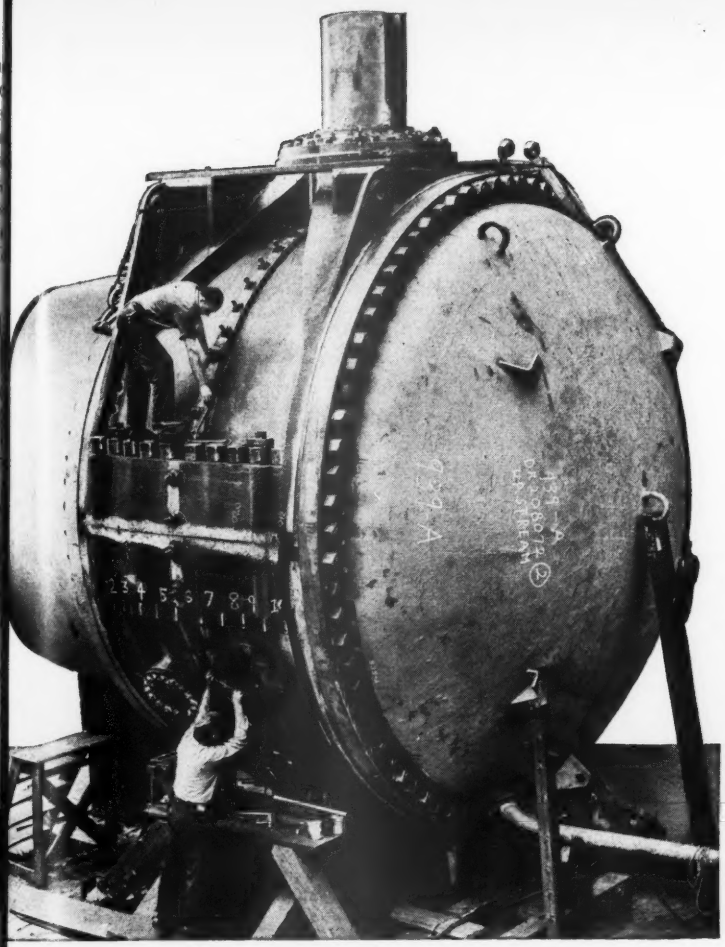
- 14 and 16 ga. Body Steel (14 ga. throughout for models rated 1 ton up—19 ga. doors).
- ⅛" Diamond Floor Plate.
- 5" Structural Channel Understructure.
- Electric Welded throughout.
- Telescoping Roof with weather tight, easy sliding action.
- One piece Smooth Welded Drawers and Compartments.
- Vertical or Horizontal Flush Doors with recessed, spring loaded latches at no extra charge.
- Concealed metal Winch Box.
- Curbside Access to tools and equipment used most frequently.
- Vertical Compartments for climbers, lines and linemen's tools.
- Large, inside ventilated Rubber Goods Compartment.
- Two piece Front Window in crew compartment.
- Bit and Chisel Drawer: Trough for Drills, Tamps, Rods, etc.
- Fendix Undercoating at no extra charge.

IMMEDIATE DELIVERY • Distributors in Principal Cities

Distributors for HALL DERRICKS

MORYSVILLE Body Works INC

813 SOUTH READING AVE., BOYERTOWN, PENNA.



This 16-Foot Butterfly Valve Illustrates the type of work which Newport News takes in stride. Newport News built 3 such valves, each weighing 446,000 lbs., for the Ross Power Plant, Skagit Project, Department of Light, City of Seattle, Washington. Designed for a water flow of 3,620 cu. ft. per sec., and a hydrostatic pressure of 290 psi., these valves were shop tested by Newport News at 450 psi. They are hydraulically operated with oil at 1,500 psi. pressure. Shop tests assure speedy, trouble-free assembly of Newport News built equipment, on the site.

The TEST of a TITAN

Here is one of the largest high head butterfly valves ever built, undergoing a shop test at Newport News. If you had an opportunity to follow this unit from start to finish, you would see *first hand* how Newport News produces massive equipment *economically*. For economy is a basic advantage that results from Newport News' high integration of skill and production facilities.

Large engineering and technical staffs, operating a plant comprising acres of brass, iron and steel foundries, five huge machine shops and other extensive fabricating facilities, have made Newport News one of the world's largest producers of hydraulic turbines, valves, gates, penstocks and other essential equipment... both standard and special in design.

Let us bid on your equipment. Write us today for your copy of "*Water Power Equipment.*"

NEWPORT NEWS

SHIPBUILDING AND DRY DOCK COMPANY
Newport News, Virginia

permits a flexibility heretofore unknown. Individual room comfort is provided, winter or summer, without affecting conditions in adjoining rooms or areas.

Each area to be conditioned has its own individual unit connected with the system, except when the system is used for heating only. In such a case, each unit is complete in itself and has no connection with any other unit. When used for both heating and cooling, each unit is connected with a common supply. In summer chilled water from a deep well, spring or remotely located water chiller is circulated, when thus used the Electric Percojet Heat Pump is inoperative. As the weather gets cooler and heating is required the Electric Percojet Heat Pump automatically begins operation circulating hot water within each unit. Each unit is provided with a fractional horsepower motor with a centrifugal fan having a variable speed control that will adjust the fan speed to give the amount of heating or cooling effect required to keep the premises at a comfortable temperature.

Controls, sizes of units and other details and specifications are contained in bulletin 77, which can be obtained upon request direct to the distributor or manufacturer.

Columbus & So. Ohio Electric Orders Blaw-Knox Towers

COLUMBUS and Southern Ohio Electric Company, Columbus, Ohio, has placed an order with the Tower and Antenna Department of Blaw-Knox Company, Pittsburgh, for 253 steel transmission towers. Fabrication of the towers will take 2,400 of steel.

Some 73 of the towers are designed for span lengths of one mile. The conductors to be supp by these towers will be 1,272,00 cular mills, made up of 45 stra aluminum around a center co seven steel strands. Cables w pulled to a maximum tension o 570 pounds.

The 138KV transmission line supported by the towers will s power from the Columbus and S ern Ohio Electric Company C ville generating station to the Broad Substation in Columbus.

Because of the nature of th rain, towers will be designed t longer legs in increments of 2½ as opposed to the somewhat sta method of making legs in 5 fo

(*Continued on page* 30)

This announcement is not an offer to sell or a solicitation of an offer to buy these securities. The offering is made only by the Prospectus.

$40,000,000

Southern California Edison Company

First and Refunding Mortgage Bonds, Series J, Due 1982

4⅞%

Dated September 1, 1957 Due September 1, 1982

Price 101.085% and accrued interest

The Prospectus may be obtained in any State in which this announcement is circulated from only such of the undersigned and other dealers as may lawfully offer these securities in such State.

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HALLGARTEN & CO. R. W. PRESSPRICH & CO. L. F. ROTHSCHILD & CO.

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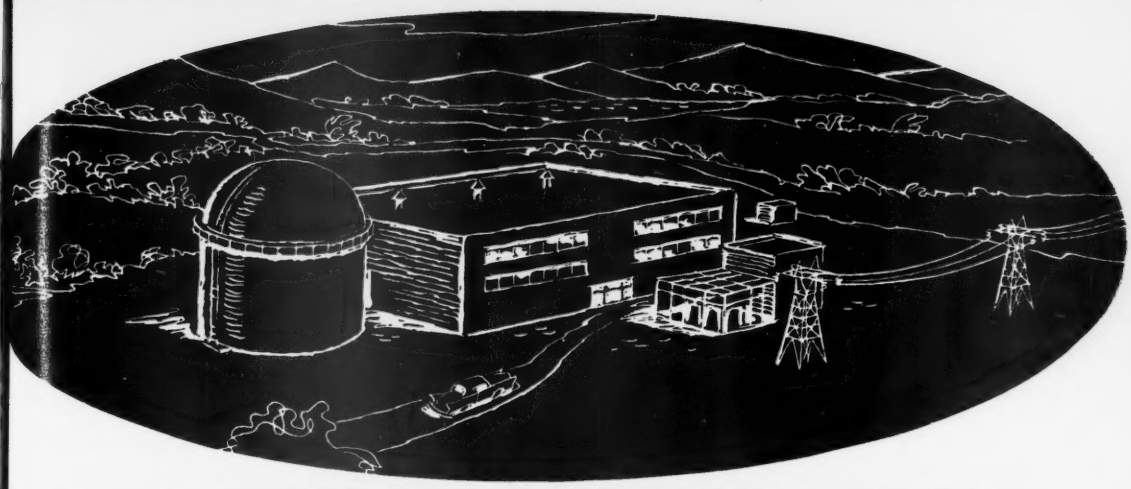
McDONNELL & CO. PUTNAM & CO. VAN ALSTYNE, NOEL & CO.

August 28, 1957



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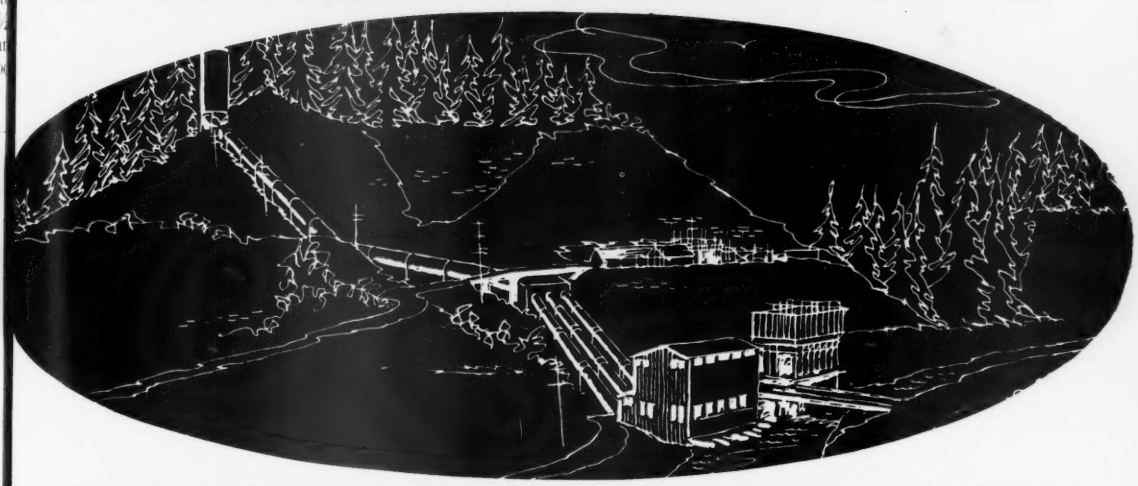
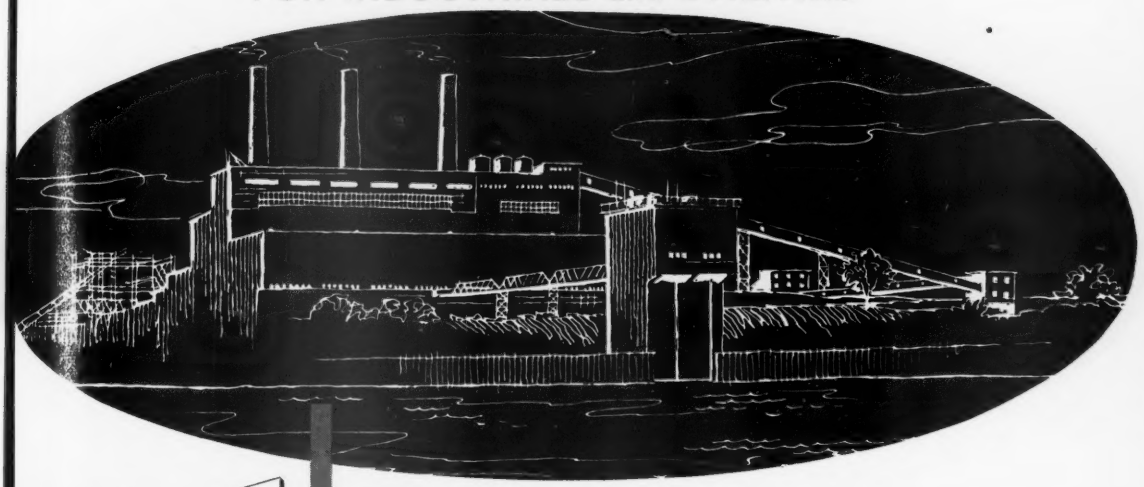


ATOMIC, HYDRO and FOSSIL FUEL POWER PLANT DESIGN
FOR INDUSTRIALS and UTILITIES



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Pioneer Service & Engineering Co.

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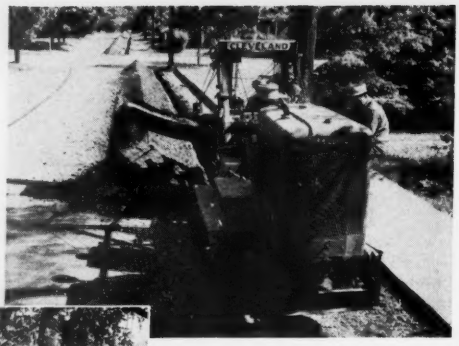


DIGS STRAIGHT

DIGS CLOSE

DIGS FAST

Etowah Construction Company uses its Cleveland 95's compactness and shiftable conveyor to advantage on this utilities job in Franklin, Tennessee.

The Cleveland 95 "Baby Digger"—built by the Pioneers of the Modern Trencher, originators of *every* important trencher design feature—makes money for its owners because it . . .

- ***fits more jobs***—digs to 5½′ deep x 24″ wide.
- ***digs all soils***—full-size engine, over 30 graduated power and speed combinations.
- ***digs faster***—more bucket capacity, more wheel-and-crawler combinations.
- ***saves property damage***—full crawlers, easy on lawns and sidewalks.
- ***lasts longer***—quality construction and materials mean longer life—it's in the records.

THE CLEVELAND TRENCHER CO.

20100 ST. CLAIR AVENUE • CLEVELAND 17, OHIO

Good Everywhere

INDUSTRIAL PROGRESS—(Continued)

crements. The new towers are s lar to those furnished by Blaw-K in 1955 for another 138KV line f Picway station to Harrison and f Wilson Road station to Bethel in vicinity of Columbus.

R-R Catalog Describes 'Dre Office" Furniture

REMINGTON Rand has issu furniture catalog entitled "D eam fice" which describes the various tures of the entire line. The 26-p illustrated catalog tells how dran color tone has taken the lea ling in all office scenes.

From the Aristocrat execu desk's lustrous polished finish to choice of colors and materials a able in posture chairs, (represen only two examples of the entire niture line) the color accent pred inates. The firm's engineers lab to exacting specifications provi the most detailed craftsmanshi produce the soundest possible all furniture.

Further information can be tained from any Remington R sales office, or by writing to Rem ton Rand Division of Sperry R Corporation, 315 Fourth Ave New York 10, N. Y.

Westinghouse Ships Emerge Order by Helicopter

THE first emergency shipment t transported by helicopter left Westinghouse East Pittsburgh pla new rooftop heliport recently. load, a replacement lightning arre for the Illinois Power Company, rushed to the Greater Pittsburgh port for shipment aboard an airli

The new helicopter service, w includes an eight passenger veh was inaugurated to provide emergency replacement parts ser to customers. The "whirlybirds" handle freight shipments up to pounds. The freight is carried ei between the two runners or in cial hoppers attached to the pla side.

Shipments can be made directly customers within a 100-mile radius Pittsburgh. In other cases, the 'co carries the load to a local airport airline shipment.

The heliport, first privately licen installation in the state, is located the roof of the shipping building large circular mat has been insta to serve as a landing area.

The helicopters for the facility provided by a local helicopter fi Industrial Helicopters, Inc

It Takes a Long Time To Bring Excellence To Maturity*

*Publilius Syrus: 42 B. C.

Samuel Finley Breese Morse:

Morse was a remarkable prophet. In 1868 he wrote, "In commending Kerite especially for telegraphic purposes I would by no means leave out of view its other various applications in the arts no less extensive and useful."

Some 70 years later, Kerite was chosen for a most singular art—the production of the first special cables for the Manhattan Project, Oak Ridge, Tennessee. The Kerite Company was *the only organization* entrusted to design and manufacture 15 entirely new types of cable to help speed the production of the world's first atomic bombs. Never before had flexible cables (more than a million feet) been used on such unusual voltages. The inherited skill and integrity of more than three generations of dedicated Kerite men insures the highest standards of manufacture of all Kerite cable—standards upon which American industry depends.

The value and service life of a product can be no greater than the integrity and craftsmanship of its maker.

Founded 1854

KERITE CABLE

THE KERITE COMPANY—30 Church St., New York 7, N. Y.
Offices also at 122 S. Michigan Ave., Chicago; 582 Market St., San Francisco;
3901 San Fernando Rd., Glendale 4, Calif.; 31 St. James Ave., Boston;
4101 San Jacinto, Houston 4, Texas; 1010 Euclid Avenue, Cleveland 17, Ohio;
29 West Lancaster Avenue, Ardmore, Pa.

AIEE Names Committee Chairmen in Six Technical Divisions

COMMITTEE Chairmen of committees in four of the six Technical Divisions of the American Institute of Electrical Engineers have been announced as follows by President Walter J. Barrett:

Communications Division

John Meszar, Bell Telephone Laboratories, Inc., Communications Division; D. L. Solomon, Army Signal Communications Engineering Agency, Communication Switching Systems; R. K. Hellmann, Hazeltine Electronics Corp., Communications Theory; A. E. Frost, Western Union Telegraph Co., Data Communication; R. D. Campbell, American Telephone & Telegraph Co., Radio Communication Systems; F. W. Smith, Western Union Telegraph Co., Telegraph Systems; C. M. Braum, Joint Council on Educational Television, Television and Aural Broadcasting Systems; L. R. Montfort, Bell Telephone Laboratories, Inc., Wire Communication Systems.

General Applications Division

H. F. Hoebel, American Gas & Electric Service Corp., General Applications Division; Peter Duyan, Jr., Douglas Aircraft Co., Inc., Air Transportation; G. E. Schall, Jr., Underwriters' Laboratories, Domestic and Commercial Applications; E. A. Foster, Fairbanks Morse Co., Land Transportation; J. D. Shuster, Bethlehem Steel Co., Marine Transportation; D. W. Rowten, Westinghouse Electric Corp., Production and Application of Light; C. N. Clark, Duquesne Light Co., Industry Division; R. M. Wainwright, Good-All Electric Mfg. Co., Chemical Industry; F. T. Chesnut, Ajax Electrothermic Corp., Electric Heating; R. J. Krieger, Titanium Metals Corp. of America, Electrical Welding; Harold Chestnut, General Electric Co., Feedback Control Systems; B. T. Anderson, Sundstrand Machine Tool Co., General Industry Applications; J. W. Picking, Reliance Electric & Engineering Co., Industrial Controls; J. K. Dillard, Westinghouse, Industrial Power Rectifiers; R. T. Woodruff, Aluminum Company of America, Industrial Power Systems; F. R. Hugus, Joy Manufacturing Co., Mining and Metal Industry; R. S. Cannon, Plantation Pipe Line Co., Petroleum Industry.

Power Division

E. I. Pollard, Elliott Co., Power Division; L. E. Fogg, Kennecott Wire & Cable Co., Insulated Conductors; J. H. Kinghorn, American Gas & Electric Service Corp., Power Generation; L. E. Ludekens, Southern California Edison Co., Power System Communications; E. M. Hunter, General Electric Co., Protective Devices; W. K. Sonnemann, Westinghouse, Relays; L. O. Dofman, Ebasco Services Inc., Rotating Machinery; W. S. Scheering, Western Massachusetts Electric Co., Substations; C. A. Woodrow, General Electric Co., Switchgear; R. T. Purdy, Commonwealth Edison, System Engineering; D. L. Levine, Commonwealth Edison Co., Transformers; I. B. Johnson, General Electric, Transmission and Distribution.

PRDC Study

A REPORT made public by the Power Reactor Development Company shows why PRDC scientists and engineers have incorporated costly extraprecautionary features in their design in order to provide for complete sealing-in of radioactivity.

A study, similar to the Atomic Energy Commission's Brookhaven Report of last March, which considers the possible effect on surrounding populations of the release of radioactive material from any type of large power reactor, has been filed by Power Reactor Development Company as a supplement to its application for an AEC license to build and operate a power reactor.

Robert W. Hartwell, assistant general manager of PRDC, stressed that the Gomberg report "is not a study of what can happen or what might happen, but is a purely theoretical study undertaken to provide data which the AEC requires for all reactor sites."

Carried on for two years at the University of Michigan's Engineering Research Institute, this study, which applies to all types of reactors, was supervised by Dr. Henry J. Gomberg, assistant director of the Phoenix Memorial Project. It indicates that the release of one per cent of the total fission products available could, under the most adverse wind and weather conditions, affect as many as 780 persons in nearby communities. Commissioner Willard Libby of AEC has reported on studies in which a margin of only one per cent of fission products in case of accident is considered possible.

The Gomberg study assumes the reactor has neither shielding barriers nor safety control. The assumptions it makes are entirely theoretical are not intended to be related in way to actual hazards.

Calculations on the basis of 10 cent release of fission products were made—as an extraprec uti measure—despite the fact that o small percentage of fission prod could escape even in case of tota struction of the reactor.

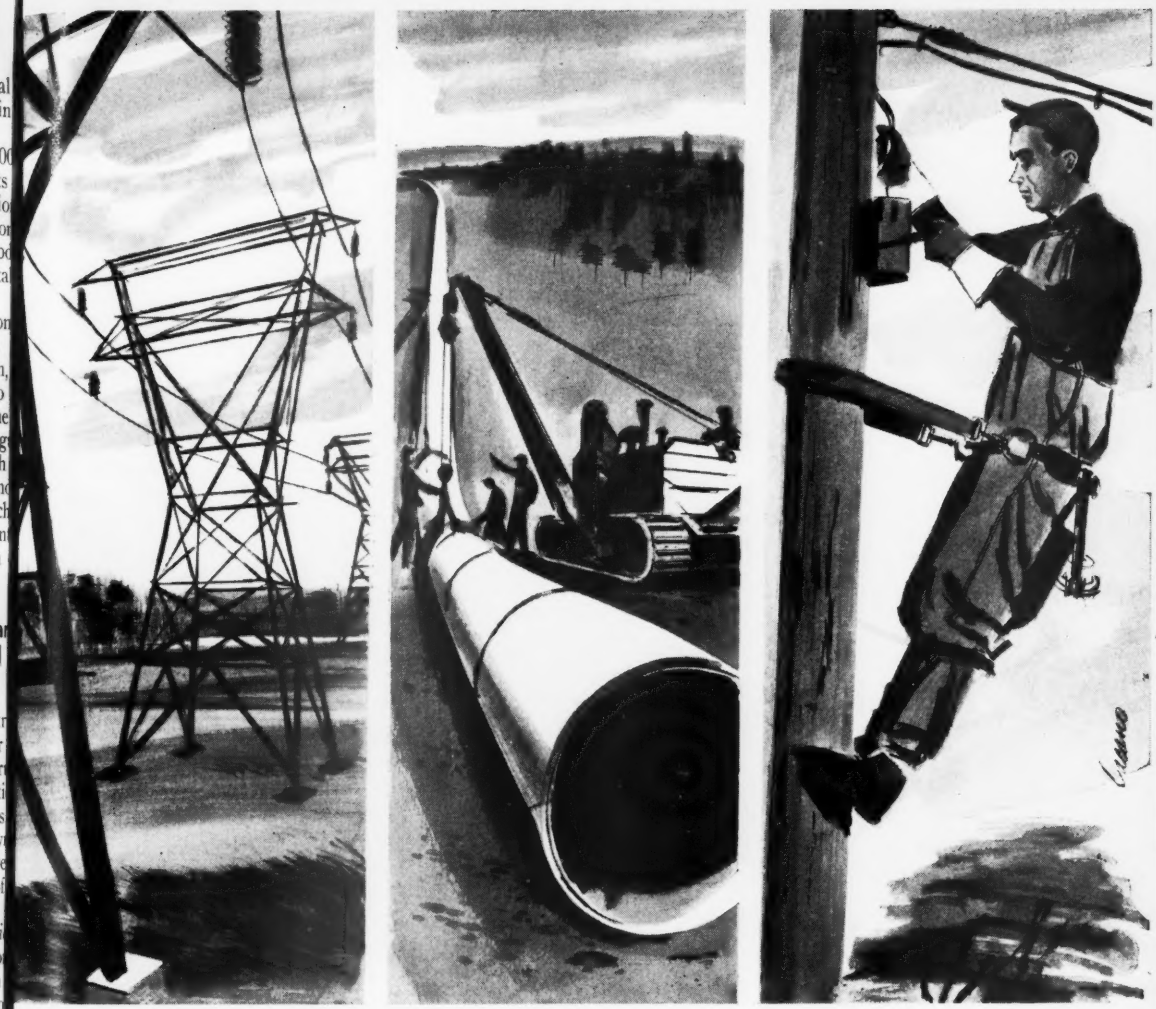
Mr. Hartwell, commenting o report said: "This situat on recognized early in the prog am, the reactor is being designed to vent any such occurrence. The actor will be inherently self-reg ing. It is being designed not with one—but with five—complete and dependent safety barriers, each which will be sufficient to preven lease of radioactive particles in of accident.

Booklet Recounts 50-Year History of International Harvester

A 12-PAGE, two-color illustr booklet that recounts the 50-year tory of International motor tr has been produced by Internati Harvester Company, and now is ing made available to truck ow and operators and to others intere in the automotive development of United States.

Entitled *50 Years of Internati Trucks, 1907-1957*, it traces the p ress of truck manufacture from first high-wheeled, 20 horsepo "IHC Auto Wagon" built in down to the present day Internat al operation which offers the wo most complete line of trucks. The chure also includes a chart show the decade-by-decade increase of ternational production which has counted for more than 2,600, trucks over the past half-century. other section compares specificat of the early auto wagon with th of a representative group of mod International models ranging from 200 to 96,000 pounds gross veh weight.

Statements by John L. McCaff chairman of the board, and P. Moulder, president of Internati Harvester, point up the progress company has made and future p for the motor truck division. T booklet, carrying form number 317-G, may be obtained by writing the Consumer Relations Departm International Harvester Compa 180 N. Michigan avenue, Chicag Illinois.



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Whether an undertaking of capital planning, financing, or cultivation of the financial community—our Analytical Studies, Seminars and Round Tables may prove valuable aids to your company's future.

For more information, call Public Utilities Department at DIgby 4-3500 or write us at One Wall Street.

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Capital Funds over $125,000,000 *Total Assets over $1,500,000,000*

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Public Utilities Department—JOHN F. CHILDS, *Vice President in Charge*

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

PROFESSIONAL DIRECTORY

• This Directory is reserved for engineers, accountants, rate experts, consultants, and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, financing, design, and construction.

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INDEX TO ADVERTISERS

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A

Abrams Aerial Survey Corporation 37
*Allen & Company .....
*Allis-Chalmers Manufacturing Company .....
American Appraisal Company, The 26
American Telephone & Telegraph Company 13
*AMP Incorporated .....
Analysts Journal, The 20

B

Babcock & Wilcox Company, The 4-5
*Beckman Instruments, Inc. .....
*Bell Helicopter Corp. .....
Black & Veatch, Consulting Engineers 34
*Blyth & Company, Inc. .....
Burns & McDonnell Engineering Company 37

C

Carter, Earl L., Consulting Engineer 37
*Cating Rope Works, Inc. .....
Cleveland Tencher Company, The 30
Columbia Gas System, Inc., The 17
*Combustion Engineering, Inc. .....
Commonwealth Associates, Inc. ..... Inside Back Cover
Commonwealth Services, Inc. ..... Inside Back Cover
Consolidated Gas and Service Company 37

D

Day & Zimmermann, Inc., Engineers 34
Delta-Star Electric Division, H. K. Porter Company, Inc. 23
Dodge Division of Chrysler Corp. 24
Drake & Townsend, Inc. 34
*Dresser Industries, Inc. .....

E

*Eastman Dillon, Union Securities Corporation .....
*Ebasco Services Incorporated .....
*Electro-Motive Division, General Motors .....

F

*First Boston Corporation, The .....
Fish Service Corporation 7
Ford, Bacon & Davis, Inc., Engineers 34

G

Gannett Fleming Corddry and Carpenter, Inc. 37
General Electric Company ..... Outside Back Cover
Gibbs & Hill, Inc., Consulting Engineers 34
Gilbert Associates, Inc., Engineers 34
Gilman, W. C., & Company, Engineers 35
*Glore, Forgan & Company .....

H

Haberly, Francis S., Consulting Engineers 37
Halsey, Stuart & Company, Inc. 28
*Harriman, Ripley & Company .....
Hirsch, Gustav, Organization, Inc. 35
Hoosier Engineering Company 35

I

*International Business Machines Corp. .....
International Harvester Company, The 14-15
Irving Trust Company 33

J

Jackson & Moreland, Inc., Engineers 37
Jensen, Bowen & Farrell, Engineers 35
*Justrite Mfg. Company .....

K

*Kellogg, M. W., Company, The .....
Kerite Company, The 31
*Kidder, Peabody & Company .....
*Kuhn Loeb & Company .....
Kuljian Corporation, The 35

L

*Langley, W. C. & Co. .....
Leffler, William S., Engineers Associated 35
*Lehman Brothers .....
*Loeb (Carl M.) Rhodes & Co. .....
Loftus, Peter F., Corporation 37
Lutz & May Company, Consulting Engineers 37

M

Main, Chas. T., Inc., Engineers 35
*McCabe-Powers Auto Body Company .....
*Merrill Lynch, Pierce, Fenner & Beane .....
Middle West Service Company 36
Miner and Miner 37
*Minnesota Mining & Mfg. Company .....
*Morgan Stanley & Company .....
Morysville Body Works, Inc. 26
Motorola Communications & Electronics, Inc. Inside Front Cover

N

National Association of Railroad & Utilities Commissioners 16
Newport News Shipbuilding & Dry Dock Co. 27
*Nuclear Development Associates, Inc. .....

O

*Osmose Wood Preserving Co. of America, Inc. .....

P

*Pacific Pumps, Inc. .....
*Parkersburg Rig & Reel Company, The .....
Pioneer Service & Engineering Company 29, 36
Pittsburgh Testing Laboratory 37

R

Recording & Statistical Corporation 11
Remington Rand Div. of Sperry Rand Corp. 19
Robertson, H. H., Company 18

S

Sanderson & Porter, Engineers 36
Sargent & Lundy, Engineers 36
Schulman, A. S., Electric Co., Engineers 37
*Smith, Barney & Company .....
*Sprague Meter Company, The .....
Stafford, R. W., Company, The, Consultants 37
Stone and Webster Engineering Corporation 36
Sverdrup & Parcel, Inc., Engineers 37

T

*Texas Eastern Transmission Corporation .....

W

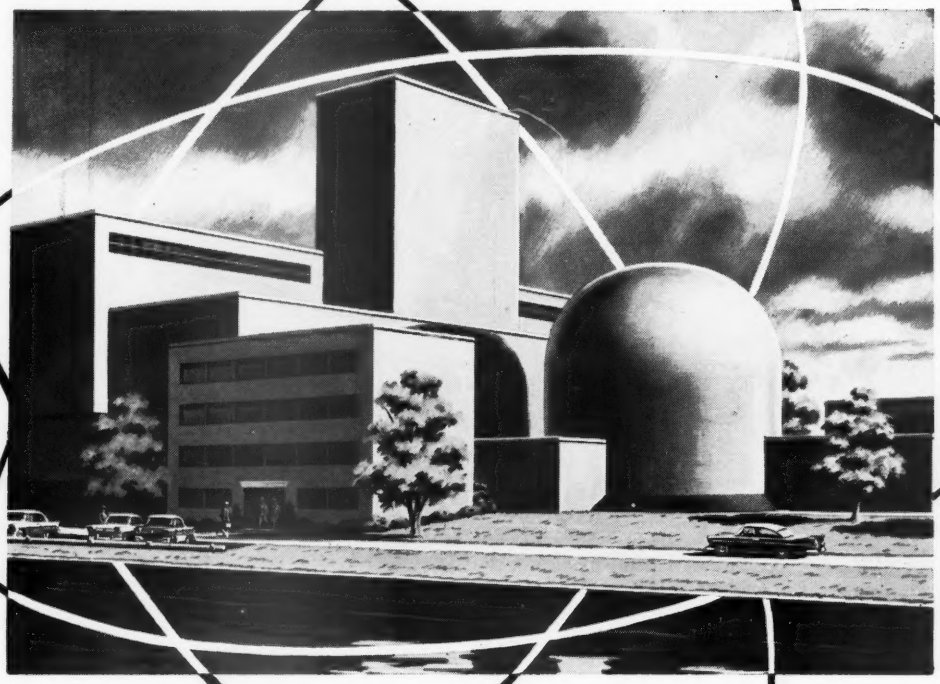
Westinghouse Electric Corporation 9
White, J. G., Engineering Corp., The 36
*White, Weld & Co. .....
Whitman, Requardt and Associates 36

Y

*Yawman and Erbe Mfg. Co. .....

Professional Directory 34-37

*Fortnightly advertisers not in this issue.



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